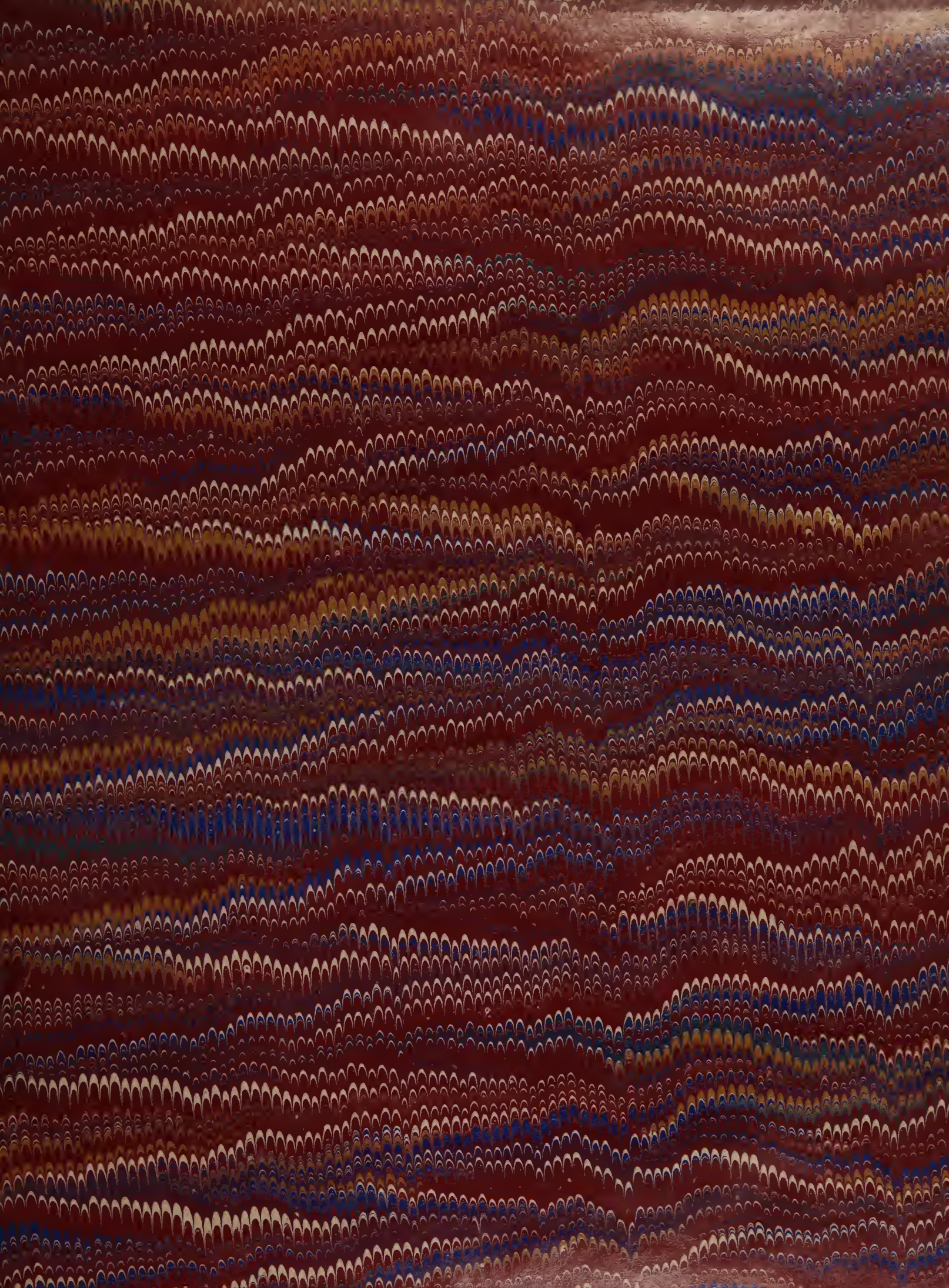
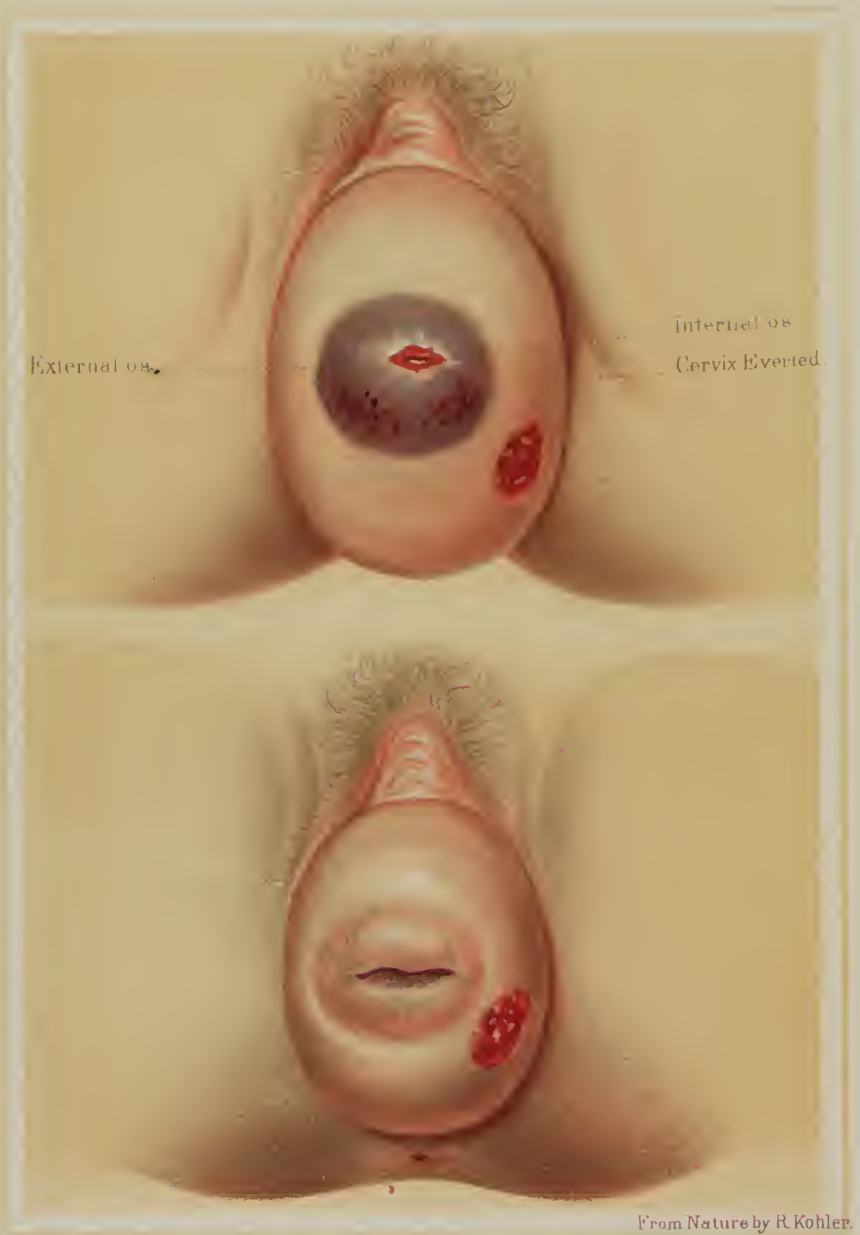
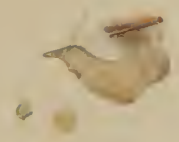




CERVIX RE-EVERTED.



ON AMPUTATION

OF

THE CERVIX UTERI

IN CERTAIN FORMS OF

PROCIDENTIA,

AND ON

COMPLETE EVERSION OF THE CERVIX UTERI

BY

ISAAC E. TAYLOR, M. D.,

PRESIDENT AND EMERITUS PROFESSOR OF OBSTETRICS, AND DISEASES OF WOMEN AND CHILDREN, IN THE BELLEVUE HOSPITAL MEDICAL COLLEGE; ATTENDING PHYSICIAN TO BELLEVUE HOSPITAL, THE CHARITY HOSPITAL, THE INFANTS' HOSPITAL; CONSULTING PHYSICIAN TO THE STATE WOMAN'S HOSPITAL; VICE-PRESIDENT NEW YORK ACADEMY OF MEDICINE, ETC., ETC.

NEW YORK:
D. APPLETON & COMPANY,
90, 92 & 94 GRAND STREET.
1869.

N AMPUTATION

OF

THE CERVIX UTERI

"Prolapsus uteri" and "procidentia uteri" are the terms generally employed to indicate the descent of the uterus from ts normal position in the pelvis.

This displacement is ordinarily divided into three degrees:

1. A settling down of the uterus, as if from relaxation. In this case the uterus descends toward the lower part of the pelvis, shortening the vagina in proportion as it fills the upper portion of its cavity, which it distends and pushes before it.

2. The same prolapsus, or descent, is characterized by the presence of the os tincæ at the vulva. The uterus rests on the internal surface of the perinæum, and fills the vagina, the upper half of which becomes folded within itself, like the finger of a glove, with its top turned inward (Gardien). The uterus thus situated takes the direction of the axis of the outlet of the pelvis, that is, of the vagina.

3. In complete prolapsus, or procidentia, the womb has escaped from the vulva, or os externum. It has now passed the inferior strait, or hangs between the thighs, covered by the vagina. The vagina is invaginated, or turned wholly inside out, and embraces not merely the uterus, and its appendages, but also the bladder, part of the rectum, and some

portion of the intestine (Kerkringius, Dugés, Saviard). It may contain not merely the uterus, but frequently the ovaries, with large portions of the round and broad ligaments, portions of the small intestines, the bladder, and rectum (Hodge).

It is upon this last, or third degree, I propose offering some practical observations in the following paper:

The preceding divisions, and the opinions relating to them, which I have given, are from the highest obstetrical authorities, both abroad and in our own country. They have been the recognized views of the medical profession for a very long period. Their correctness, however, has been called in question within the last few (ten) years by M. Huguier.[1]

An elaborate memoir was afterward presented by M. Huguier to the Académie de Médecine, in Paris, March 8, 1859, "*sur les allongements hypertrophiques du col de l'utérus, dans les affections designées sur les noms de descente de précipitation de cet organe, et sur leur traitement, par la résection en l'amputation de la totalité du col suivant la variété de la maladie.*"[2]

In this memoir M. Huguier maintains that the ordinarily-received opinion is erroneous, and denies emphatically that the appearance of the os uteri at the vulva, or of a greater or less portion of the uterus itself beyond the external organs of generation, is the result of a displacement of the organ, or a general lowering, or that it is a true and complete prolapsus *en totalité*. He holds that this can be shown to depend on inaccurate observations. He contends that when the uterus appears externally, and even when the vagina is completely inverted, and the uterus appears to be entirely prolapsed between the thighs, this condition is not due to the fact that the organ has been generally lower in the level, and had completely left the pelvic cavity, but rather to the partial or general hypertrophic elongation of the supra-vaginal portion of the cervix. The best proof he alleges that can be given of this is, that in almost all the cases the fundus of the uterus continues *habitually* in its normal situation, sometimes a little higher, sometimes a little

[1] *Gazette Hebdomadaire* of 1858.

[2] Mémoires Académie de Médecine, tome 33.

lower, but it always remains in the cavity of the pelvis. In one case it floated in the cavity of the abdomen. If we examine the tumor with care, and measure its cavity by means of the hysterotome, or any other appropriate instrument, the elongation is easily detected. We can also equally assure ourselves of the presence of the body of the organ in the pelvis by careful palpation of the tumor externally; and sometimes by abdominal palpation, or by the rectal touch, we may feel the fundus or the length of the tumor.

The two principal lesions and varieties of the longitudinal hypertrophy are those which affect the uterine neck above or below the insertion of the vagina, and constitute two different diseases, although their nature may be the same.

M. Huguier confines himself, in the second part of his monograph, to the consideration of the longitudinal hypertrophy, which simulates, accompanies, or determines the descent of the uterus, and not to the eccentric form. These two conditions, or lesions, demand separate considerations, as the longitudinal hypertrophy below the insertion of the vagina is not of so much importance. It is easily and simply treated, and will not claim our notice at this time.

The other, the longitudinal hypertrophy of the cervix uteri, *above* the insertion of the vagina, or supra-vaginal portion, is of more importance, and I desire to invite attention to it in this article.

The proposition and negation of M. Huguier, in opposition to the usually received views and opinions, are the result of fifteen years' investigation and labor. After having searched through the various authors who had written on this subject during the last century and a half, he finds no valid proof of a complete case of prolapsus uteri, except two observed by MM. Morel-Lavallée and Blandin. Huguier knows of no others where the characters of the affection have been described in such a manner as to leave no doubt as to its exact nature. He therefore denies the frequency of the complete prolapsus; maintains that it is rarely seen, and that it has generally been confounded with the hypertrophic elongation of the superior part of the uterine neck. M. Huguier, to substantiate his views, establishes three kinds of proof:

1. Historic researches.
2. Pathological anatomy.
3. Clinical facts.

Under the first head, reference is made to cases related by Saviard, Morgagni, Dance (1829), and Jules Cloquet. Under the second head, the magnificent work of Cruveilhier is appealed to. All cases where procidentia existed consequent on considerable peritoneal effusion, or with very voluminous ovarian cysts, where the pelvic organs are apt to be pushed downward, are excluded.

All cases of slight descent of the uterus, described by authors under the name of semi-prolapsus, and even those where the neck and vulvo-uterine canal, partly inverted, projected from two to three centimetres (i. e., from three-quarters to one inch) from the vulva, were also excluded.

3. *Clinical Facts.*—There were sixty-four cases of *pretended* complete prolapsus, and of this number only *two* were instances of true and complete prolapsus, unaccompanied by hypertrophic elongation.

In a third case, and the *only one* of that nature, there was at once complete prolapsus, retroflexion, and elongation of the uterine neck above the insertion of the vagina.

It cannot be denied that much credit is due to M. Huguier, desirous, as he is, of establishing a more modern view respecting that affection, in presenting to the profession the results of his close and careful investigation after such an interval of time, and offering, as it does, a new factor in the causes of procidentia uteri. But virtually he resuscitated an old opinion long since expressed. His memoir is very extensive, and one of the most beautifully illustrated works that has ever been produced on uterine disease. Previous to the publication of M. Huguier's memoir in the *Gazette Hebdomadaire*, Morgagni, in his forty-fifth letter, indicates the same fact. But this fact, it appears, has, in an especial manner, been noticed by M. Levret, *Journal de Médecine, et Chirurgie, et de Pharmacie*, par Roux (1775), tome xl., p. 352. The essay of M. Levret is entitled "Sur un allongement considérable qui survient quelque du col de la matrice."

This paper appears to have been overlooked by M. Hu-

guier, although he refers to some remarks of M. Levret, who differs from him. M. Huguier uses the word "*hypertrophique*" instead of "considérable" in the title. Levret reports four observations, in which there is a correct and excellent description of this lesion, and indicates the same diagnostic sign as M. Huguier, as new and original. The same view and method were adopted by Morgagni, who only decided his case by the stylet.

Levret introduced a whalebone stylet to ascertain the exact depth of the uterus, and expresses the opinion that none of the old obstetrical authors had known of these cases, where the neck of the uterus may sometimes lengthen at this spot to acquire five to six inches or more, without the body being displaced, and when it was still in the pelvis. As this appears to be so very exact and correct a description of this lesion of the uterus, referred to by M. Huguier, then Levret must be in advance of M. Huguier a full century. The only difference, however, between M. Huguier and M. Levret—and I think it a very important and material one—is this, that M. Huguier considers the hypertrophic elongation as generally existing; while M. Levret considers that the longitudinal hypertrophy of the uterus is accompanied always by only a partial degree of descent of the uterus.

M. Huguier speaks of the affection as a *true* hypertrophy. M. Levret passes no opinion respecting its pathological character, and regards the lesion as only another variety of prolapsus, and says: "The tumor of which we have spoken is a fourth species, composed of an inverted vagina, and the cervix of the womb lengthened, without containing the body of this organ."

From this investigation, it appears that M. Huguier is not original in presenting this view of the form of disease (so-called prolapsus) under consideration. He is entitled to, and certainly should claim, the credit and honor of having called the attention of the profession anew to the subject.

He proposes, as a general method of treatment in this class of cases, the amputation of the cervix uteri by the removal of a conical-shaped portion from the hypertrophied part, whether this should be a case of elongated or eccentric

character. For procidentia uteri, this had not, I believe, been recommended before, though Lisfranc had, for other diseased conditions of the infra-vaginal portion of the cervix, adopted the amputation of the cervix uteri.

This special lesion of the uterus, as a cause and factor in producing prolapsus uteri, had only occasionally been recognized in ancient times. In more modern times it has attracted recently some attention.

In the museum of St. Bartholomew's Hospital, series 32, a specimen is referred to by Dr. West, in his work on Diseases of Females (pp. 96, 158, 160). Virchow, in the "Geburtshülfe," vol. ii., p. 205, especially uses the name of "prolapsus de la matrice sans descent," or without sinking of the fundus.

Mayer, of Berlin, refers to some cases of a like nature. Cruveilhier, in his "Pathological Anatomy," states that he has invariably observed in prolapsus of the womb an elongation of that organ, accompanied with great *contraction* and *narrowing*, which occurs principally at the junction of the body with the neck.

But he also observes that sometimes this elongation exists, and at *other times* the descent of the womb is greatest, evidently establishing *two* varieties of prolapsus uteri, one *with* descent of the body, and one *without* descent of the body, of the uterus. In some instances he found the lengthening so great that, when seen within the pelvis, the womb appeared to occupy its proper position, and, under these circumstances, it commenced with the inversion of the vagina. Jules Cloquet figures a case in his "Pathological Anatomy" (*surgical*, translated by Cowperthwait, 1832, and which M. Huguier refers to as well as M. Cruveilhier).

Dr. Heming, the translator of Boivin and Dugés's work on "Diseases of the Uterus," reports in the *Edinburgh Medical and Physical Journal*, as far back as 1832 (August, vol. lxviii.), that he has seen several cases, and says that it is highly important to recognize the distinction between this disease and simple prolapsus. Sufficient has been adduced to show that longitudinal hypertrophy of the supra-vaginal portion of the cervix uteri has been recognized by modern authorities. But with all this it has not received and claimed that atten-

tion which it merits, not only in a pathological point of view, but as regards the treatment applicable to it. Becquerel, in his "Maladies de l'Utérus," figures, in his plate six, a case measuring five and a half inches. The cases of Heming, West, and others, were uncomplicated cases of the disease. Those of Cruveilhier, Cloquet, and Huguier, had a fibrous tumor or polypus in the body of the uterus. In these cases the tumors may justly be considered as one of the causes in producing or aiding the hypertrophic growth of the uterus. At this time I recall to mind the case of Mrs. V. (1857), whose uterus measured seven and a half inches, and which, under the treatment that was adopted, was reduced to three and a quarter inches after a few months. The patient succumbed a few months after this to tuberculous disease, and, on *post-mortem* examination, the uterus was found adherent to the colon, and a small fibrous tumor existed in the walls of the uterus, just where the body joins the cervix.

With all that we have advanced on this subject respecting its history, can we yield assent to the views that M. Huguier has promulgated—that the complete exit of the uterus from the vulva is so exceedingly rare, while longitudinal hypertrophy of the cervix above the vagina is so generally frequent, and the fundus of the uterus *habitually* near its normal position?

Scanzoni, Hodge, and Meigs, do not treat of or make any mention of it, and Dr. Sims, in his recent work on "Surgical Diseases of Females," merely refers his readers to the work of M. Huguier for further information. It is evident that very different views at the present day are entertained by gynecologists regarding the true meaning of the term procidentia uteri. If these views of M. Huguier are correct, it certainly must be apparent that other means should be adopted than appliances of various kinds, such as pessaries, or the operations of *episiorhaphy* or *elytrorhaphy* alone, for the radical cure of procidentia uteri; therefore, I think it follows that if *true* hypertrophic elongation of the supra-vaginal portion of the cervix uteri exists, they could not individually succeed.

Grailly Hewitt (1865), in his work on "Diseases of Women," remarks that "the proper management of these cases

must be considered as still open to question, the views of Huguier not having as yet obtained the sanction of all the best authorities on the subject."

I have spoken, in the commencement of this paper, of the three divisions or degrees of prolapsus, which gynecologists have usually adopted. Chelius, however, for simplicity of arrangement, makes but two divisions, though he recognized sometimes the pathological changes in the tissue of the uterus. He divided the prolapsus into "*complete* and *incomplete*." In the "complete," the organ projects entirely out of the external parts, and a probe may be introduced into the mouth of the womb, not more deeply than *two inches*.

Paul Dubois adopts only the two degrees. The complete, according to this order, is when the uterus has passed the inferior strait, and the organ is totally without the pelvis (Chute de l'Uterus, Dic., 30 vols.). Scanzoni regards it as complete prolapsus when the organ passes the vulva externally, and Nonat, Bernütz, and Aran, hold the same view.

I believe that in this simple arrangement many facts have been lost to science. It is no small merit of M. Huguier that he recognized a new factor as a pathological cause of procidentia uteri, and protested with such emphasis against the negligence of observers. He not only invited but forced modern gynecologists and pathological anatomists to recognize the truth of his assertions, which they had overlooked.

The recent descriptions of procidentia uteri have not been based on pathological anatomy (it appearing to be almost ignored), and the physiological and anatomical examinations have also been made in an incomplete manner. The different forms of this affection have been confounded, and certain displacements, which did not exist, have been admitted. In the practice of some physicians nothing is more common, being an every-day occurrence, than the complete falling of the uterus, and yet we only occasionally encounter authentic examples in the writings of reliable authors.

The simple division into "complete and incomplete" appears to be the most appropriate, whether we recognize the pathological changes in the cervix or not. The same division answers also, whether we consider this affection as, 1. Idio-

pathic or primitive, where it has no complications; or, 2. Symptomatic, or where it is associated with other lesions. This last division, I think, has a practical bearing of much importance in treatment. Simple as the division may be, yet it has been falsely interpreted in not recognizing exactly the relations of the prolapsed part, as complete falling of the womb is often spoken of, when the greater portion of the organ, the entire body, is still enclosed in the pelvic cavity, and sometimes raised above the superior strait. This discrepancy arises from a difference of opinion as to the precise limits which separate the complete from the incomplete. Some admit, as does Paul Dubois, that the inferior limit of the pelvic cavity is the inferior strait, that is, a line drawn from the lower part of *the symphysis pubis* to the termination of the coccyx, and, when the body of the organ passes this limit, the prolapsus is complete. Others regard the vulval opening at the base, or exterior, to the labia majora and minora (Hodge).

Modern researches on the anatomy, physiology, and pathology of the uterus enable us, I think, to establish a more physiological division of this affection, and thus have a more just and correct appreciation of its pathological changes. The observation of pathological facts demonstrates that the falling may be consequent upon enlargement of the body, or it may depend entirely upon the cervix. The falling or projection of the cervix externally is then but a symptom of a disease entirely different from those which produce prolapsus of the entire organ.

We know that the cervix and body of the uterus present decidedly different anatomical structures (Richet, Guyon, Sappey), and physiology teaches that the uterine cavity exhibits completely distinct phenomena from the cervix (Kölliker, T. Smith, and others).

In pathology we notice a separation quite as distinct, and the affections which invade the neck in many diseases do not trespass on the body of the organ. In the discussion which took place in Paris before the Academie de Médecine, April 5, 1859, on M. Huguier's monograph, M. De Paul affirmed that the structure of the cervix differs nothing from that of the body. "Do we not find," he says, "the same tissues, the same

anatomical elements? What special structure of this portion (the supra-vaginal portion) can explain an exact limitation of longitudinal hypertrophy? Where and how does M. Huguier give a proof of the existence of the hypertrophy of the supra-vaginal portion?" It is very evident that M. De Paul ignores this grand and useful and practical law which Nature has established. Proofs, by investigation, have asserted the uterine duality, by virtue of which the body and cervix are one. With the uterus in its development, its progressive changes, through its physiological life, and the mutations which age brings with it, there is a kind of perpetual antagonism from infancy to old age, not only in its totality but in its separate portions. To comprehend the subject, therefore, we feel obliged to adopt the simple division which we have stated, viz., complete and incomplete, whether simple or complicated, idiopathic or symptomatic.

The cervix uteri itself is divided by M. Sappey and M. Guyon into two parts—that portion which embraces the glandular part, and the space which intervenes between this and the body, from one-half to three-quarters of an inch long. The cervix comprehends all that portion of the uterus which is above as well as below the reflection of the fundus of the vagina. The hypertrophy may invade as well the superior as the inferior, separately or together, though this M. Huguier admits *does not occur*. For he believes the inferior portion, when hypertrophied, is antagonistic to the superior, and *vice versa*. This is not strictly correct, for I have seen two cases, one in the Charity Hospital (B. I.), and the other in private practice, where not only the infra-vaginal portion was elongated two inches, *but the superior also* two inches, making four inches. M. Verneuil, in the *Gazette Hebdomadaire*, 1859, reports a case with the same lesions.

Causes.—The falling of the uterus depends upon a variety of causes, very different in their nature and their action. They may be divided into those which are *external*, and those which are inherent in the uterus itself. No cause acts with more power and effect than accouchement, whether premature or complete, and the pathological changes which frequently follow it. The more frequently parturition is repeated, the

more it acts on all the means of suspension of the uterus, and the uterus itself, and, subsequently, the general economy.

If after accouchement a healthy process has not been established, and the uterus not perfectly involuted, but remains large and weighty, the physiological softening not only invades the uterus itself, but it extends to the ligaments, especially the dartoid structure and the pelvic fascia—those which sustain more perfectly the uterus—and gestation acts also mechanically in stretching and lengthening these ligaments during the whole period of pregnancy. It is well known that when the fibrous tissues have once been stretched, and have lost their elasticity, they seldom recover their former power of sustaining the uterus. They remain relaxed, or they may be lacerated, and this is especially true of the lumbo-sacral ligaments. The rupture of these ligaments is considered by Boivin and Dugés as playing an important rôle in the *mechanism* of procidentia uteri. Nothing is more frequent also than the chronic post-puerperal congestion, or chronic inflammation (as it is sometimes called), which is apt to occur unless a proper reduction of the uterus has taken place.

Out of one hundred and fourteen cases of procidentia uteri which Scanzoni treated, ninety-nine of them were mothers; and, out of the sixty-four cases observed by M. Huguier, sixty-two were mothers. Some of them had from ten to eleven children. These figures, so important at first sight, will, on examination, lose their value, for it appears that in these patients the commencement of the lengthening was not determined, the first symptoms of falling of the uterus not being noticed, and sometimes not even the passing of the cervix from the vulva.

All the cases recorded by M. Huguier have been *mothers*, with the exception of two. In general, the patients belonged to the class of washerwomen or laundresses, for, out of twenty-two observations recorded in his memoir, thirteen were laundresses (or two-thirds of the number), three journalists, and the remainder were distributed as follows: a cook, a nurse, a merchant, and an artist. The ages of twenty-one patients were as follows: eleven were from forty-five to seventy—one-half being forty-five; seven from thirty-three to forty-five; three

from nineteen to twenty-six. If we take these facts as bearing upon the age, avocation, and the pregnancy of the patients, and especially the last, they have great significance in their relation to the causes producing the hypertrophic condition of the uterus. In my own experience they are the chief and most constant causes.

During pregnancy and parturition, the uterus undergoes important physiological changes during gestation, not only in regard to the body, but the cervix; and afterward occur the pathological changes incident to a want of proper reduction of the organ to its normal size.

Occasionally mechanical causes (or chronic *idiopathic* congestions) may produce it. We must infer, therefore, that the weight of the uterus, by its own gravity, has brought about a certain form of lengthening of the supra-vaginal portion of the uterus.

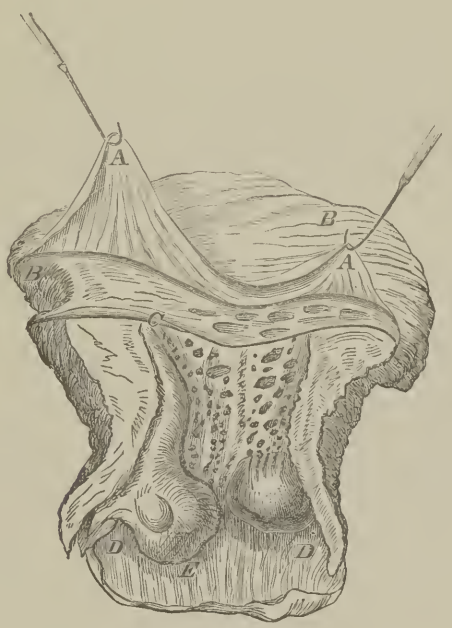
Morgagni has asserted in the case that came under his supervision: "It is evident that the uterus, whose *fundus* was somewhat lower down than usual, had been drawn downward by the weight of the vagina thus thickened; unless the cervix, from the very beginning of the disorder, was of such a laxity as to suffer itself to be drawn downward more than the other parts, and be distended into that extraordinary length."

The experience of MM. Bastien and Le Gendre, on the cadaver, permits us to form, approximately, the measure of the force which is necessary to produce a prolapsus or procidentia of the uterus, and to destroy the resistance of the supports of the uterus. With a weight of fifteen kilogrammes (or thirty lbs.) attached to the cervix, it is brought to a level with the orifice of the vulva. Fifty pounds' weight will make it pass this orifice one centimetre, or one-third of an inch.

With a traction of one hundred pounds, the descent continued, and reached a distance of one inch and a quarter. In experiment No. 9, the uterine cavity, before the traction, measured one inch and five-eighths; after the traction, eight centimetres, or three inches. If this tractive force from above was slow and gradual for some days, the same result was arrived at. The fact that the uterus is, after accouchement, left enlarged, and requiring from six to eight weeks to be

restored to a normal size, and to its original structure, is well recognized, and, if not properly involuted, may remain so for many months, and even years. In such cases, in the body of the uterus there is found an enlargement of the parenchyma of the organ. An attentive examination demonstrates the same pathological alterations as occur in chronic engorgements of the womb, though the cavity is doubled.

Fig. 1.



HALF NATURAL SIZE.

A. Decidua.—B. Body of the uterus.
C. Internal orifice of the uterus.
D. Vagina.—E. Os tincæ. Length of cervix, two and five-eighths inches.

The cervix partakes of the same condition, but is sometimes lengthened during gestation. As this fact has been demonstrated (of which the diagram, Fig. 1, is only one of many instances occurring under my own observation),[1] then we can plainly perceive how through a physiological process, if not modified by the natural laws, a pathological lesion ensues.

[1] See *New York Medical Times*, June, 1862; also, Transactions State Medical Society, 1865, article Placenta Prævia.

We can thus more satisfactorily account for many of these cases of so-called (simulated) procidentia uteri. As a general rule, I believe we may assume it as a guide, that the cervix uteri, in its supra-vaginal part, measures from one inch to one inch and a quarter in the unimpregnated female, while that from a female dying soon after parturition, or just before delivery, at full term, measures from one and a half to two inches. In seventeen *post-mortem* examinations, I have observed at full term, or at the very commencement of labor, there was one specimen of a cervix uteri of two inches and five-eighths in length (see Fig. 1), two of two inches and a half, two of two inches and a quarter, and the remaining twelve varied from one inch and three-quarters to two inches.

Boivin and Dugés remark that the cervix uteri, during the early period of gestation, may be lengthened to two inches, but they believe it becomes perfectly obliterated during the last month of pregnancy. Filugelli has remarked that the cervix uteri may lengthen three inches, during the first months of pregnancy, but that it is obliterated at the close. Cazeaux denies this view of Boivin and Filugelli, and so do other gynecologists, but, as I conceive, on incorrect investigation and examinations.

The remarks of Dugés, and Boivin, and Filugelli, are truthful so far as they go, to the third or fourth month; and instead of the cervix uteri becoming obliterated at the very close of pregnancy, *it is the very reverse.* The cervix maintains its normal length to the end of pregnancy, and is physiologically hypertrophied and softened in breadth. In some instances it is lengthened to an extraordinary degree, as the two following cases will attest:

Case I.—(Reported by Dr. George S. Sherman, House Physician.)—A patient at the Charity Hospital, in October, 1867, 43 years of age, was presented to my notice for procidentia uteri of three months' duration. She had ceased to menstruate six months before, and had been irregular the last six months. The uterus was procident from two and a half to three inches. She denied being pregnant. There was no distinct areola, no vomiting, no nausea. The external abdominal examination felt no tumor in the superior strait.

The appearance of the os tincæ presented nothing that could lead me to suspect gestation in this case. The cervix externally was thick and large, and the neck long and cylindrical, being about the size and thickness of the thumb, and could be felt extending up the vagina nearly three inches. The body of the uterus was not recognized. The rectal and vaginal touch gave the same information.

The sound was introduced, carefully and gently, and the uterus measured ten inches. *Per rectum* the sound could be felt in the pelvis, high up through the long, narrow cervical tube, and no round globular body was ascertained. The patient aborted two days afterward of a fœtus three months and a half old.

The same circumstances were also exhibited in the case which occurred in the Bellevue Hospital, under Dr. Young's and Dr. Stoddard's care. The long cylindrical cervix was felt, but the round globular body of the uterus was not recognized by the various methods of examination. In this case I hesitated to pass the sound at the first examination, simply because the only evidence of gestation was the blueness of the labia of the cervix (not the vagina). The patient positively denied having had any intercourse with any man in four years. After the birth of her child, she did not have her menses for six months. On examining again a second time, very carefully, on all points, I resolved to introduce the sound. The uterus measured eleven inches. Two days afterward, this patient miscarried of a fœtus three months and a half old. On examination of the neck afterward by Dr. Stoddard and myself, the round globular form of the body of the uterus was recognized, with a cervix an inch and a half long, and of about the same breadth as is frequently seen after labor.

In connection with these cases, M. Cazeaux, in his work on "Midwifery," relates a case that he saw at his clinique, in 1849, which he considered a very remarkable case of incomplete prolapsus, during pregnancy—in which the entire neck of the uterus projected beyond the external parts. The cavity of the neck measured two and three-quarter inches in length—extending on the sides three and a quarter inches; anteriorly, two and a half inches; posteriorly, two and three-fourths

inches. Dr. J. C. Nott, formerly of Mobile, now of this city, reports a case, as he supposes, of extraordinary hypertrophy of the cervix uteri, during gestation, October No., 1867, *American Journal of Medical Sciences.* The measurement was externally three and a half inches in length, and one and a half inches in diameter.

I am aware the views I have presented on this point are in direct contrast to those usually received. They have, however, been fully and carefully substantiated, not only by cases in the living subject, but by several *post-mortem* examinations.

These facts will tend to show, if they do not demonstrate clearly, how cases of hypertrophic elongation may occur, and how the supra-vaginal portion of the cervix becomes of such a considerable length, and of a cylindrical form.

They will corroborate the opinions of M. Huguier as regards the elongation of the cervix, and the necessity for the treatment he proposes, though differing pathologically, yet sustaining the views of Levret and Morgagni, though they gave no explanation of the pathology of the disease.

Morgagni, book iii., letter xlv., page 622, remarks on this affection: "On the outside of the labia of the pudenda, which was much dilated, a body three or four inches in length was prominent. This body was of a cylindrical form, thick, and made up of a substance similar to a ligament, and smooth. Being surprised at its unusual length, I cut into the vagina, and within it I found the cervix uteri contained, having become very much larger than it naturally is; nor was this to be wondered at, since the parietes of the cervix itself, and the fundus uteri, were not firm, as they are in their natural state, but extremely lax and flaccid."

Cruveilhier, in relation to this point, observes (Livraison xvi., page 2): "The lengthening of the womb can only be effected by previous softening, in consequence of which the organ becomes in some degree ductile. This softening may be, perhaps, purely and simply the result of a slight pull on the womb."

Experience teaches us that no tissues are more ductile and distensible than those of the uterus, especially when they have

undergone the *ramollissement* consequent on pregnancy, or in some cases of a decided lymphatic constitution.

Huguier and Kiwisch have classed these kinds of cases under hypertrophies. They are not so considered by others. For it is proved by microscopical examination that the structure of the hypertrophied uterus after accouchement presents no inflammatory or heterologous deposits, but the tissue of the organ retains, as I have before remarked, its histological character, similar to the tissues of the uterus at the ninth month of pregnancy, except only that its component muscular fibres were smaller in size. No fact is more evident than the eccentric hypertrophy of the body of the uterus, and this without the uterus being procident or even prolapsed. We meet with these cases especially after abortion, where the uterus measures from three and a half to four inches, while the os tincæ may be in its normal position, from two and a half to two inches and three-quarters from the vulva, and occupying its proper axis.

M. Huguier has dwelt very slightly, in his celebrated memoir, on the causes of this affection. Before considering, therefore, other causes producing it, I will refer to the measurements of the uterus of M. Hugnier in his own cases. These were twenty-three in number. In three there were no measurements. In the remaining twenty the fundus was inside of the vulva sixteen times, and four times it was outside:

1	case	the fundus was	inside	18 lines,	or 1 inch and $\frac{1}{2}$.
1	"	"	"	16 "	1 inch and $\frac{1}{3}$.
1	"	"	"	14 "	1 inch and $\frac{1}{6}$.
6	"	"	"	12 "	1 inch.
1	"	"	"	10 "	$\frac{5}{6}$ of 1 inch.
2	"	"	"	9 "	$\frac{3}{4}$ of 1 inch.
2	"	"	"	8 "	$\frac{2}{3}$ of 1 inch.
2	"	"	"	4 "	$\frac{1}{3}$ of 1 inch.
16	cases.				

These measurements would be materially altered if the perinæum was relaxed or ruptured, or if the uterus had been procident for a number of years.

In many cases of procidentia uteri, where there is not the *true* longitudinal hypertrophy, the uterus almost always be-

comes retroverted, and sometimes retroflexed, before it becomes procident.

If we take the measurements of the uterus in M. Huguier's cases, as he has given them, with the exception of observations 11 and 12, we will have, out of twenty cases (as two are considered as complete by M. Huguier himself), the following result. Out of twenty-two cases, four were outside and eighteen inside, and are as given below:

In	1	the uterus was 8	inches in length.
In	2	" 4⅔	"
In	4	" 4⅓	"
In	8	" 4	"
In	12	" under 4 inches.	

Not only in these twenty-two cases operated upon, but the average measurements of the sixty-four cases were, as M. Huguier himself admits, 12 centimetres, or 4 inches. The measurement of the two specimens in the Dupuytren Museum was only 10 centimetres, or 3⅓ inches. These measurements of M. Huguier do not correspond to the kind of cases he has reported as true hypertrophic elongation of the cervix uteri above the vaginal insertion. For further proof of these remarks I shall refer to the diagrams representing Huguier (Fig. 5) and Cruveilhier's (Fig. 6) cases.

The affection is not due solely to the puerperal causes which are so frequent and general, but it may exist previous to pregnancy, as the following case will show:

Case II.—Sarah J——, aged 18 years (menstruated at 14), admitted to Charity Hospital, November 7, 1865 (reported by Dr. T. D. Bradford, House Physician). "A strong, well-nourished colored girl, unmarried, and never pregnant. While hard at work three years before, lifting, the uterus fell, and has remained procident ever since. She suffers intense pain in the pelvic region, is incapable of walking but very little, and then has to straddle very wide to move along. Amenorrhœa of two months' duration, cervix prolapsed 1¼ inches, very tender and irritable; can scarcely be touched; small os tincæ. The vaginal examination, quietly and carefully made, gives the measurement, both anteriorly and posteriorly, 2½

inches, and from the os tincæ $3\frac{3}{4}$ inches. The cervix uteri is long, slender, and cylindrical, at this height. The rectal touch does not feel the body of the uterus. The abdominal examination, from the excessive tenderness of the pelvis and hypogastric region, is unable to perceive the fundus. A small, thin, metallic sound, introduced gently through the cervix, reaches the extent of from four and three-quarters to five inches. The sound is then felt over the pubis. There was no cystocele or rectocele.

"*Treatment.*—Leeches to the vulva, hyoscyamus pills, 2 gr., three times a day. The leeching to be repeated two or three times. The congested condition overcome December 10th. The uterus was of the same length.

"*December 18th.*—From three-quarters to one inch of the cervix was amputated by the circular method. The patient is to be kept quiet in bed, and suppositories of opium given for a few days.

"*March 1st.*—Patient still remains in the hospital, and the uterus measures three inches. She can walk easily and without much pain."

This patient came into the Charity Hospital again Feb. 1, 1868, with chronic cellulitis. The uterus measures three inches, and the os uteri is one and a half inches from the vulva. She again left the hospital, and returned shortly afterward, and is now an inmate in the hospital, with the uterus as last reported, February, 1868.

This case might be classed among the congestive variety of this form of disease, as suggested by Bernütz, or it might have been, as Bernütz would consider it, congenital, the congestion occurring afterward. Of the congenital kind, he reports the following, the nature of which is proved by the fact that the same peculiar formation was actually found in one of the patient's sisters, while all the others were sterile:

"Case III.—M. S. W., aged twenty-five, was admitted January 15, 1861, into 'La Pitié.' She began to menstruate at fifteen, and continued regular until she was nineteen, when she ceased to do so for three months, and was troubled with amenorrhœa and sharp pain in the right iliac region. At twenty-one years of age she had to lift heavy weights and

work very hard. This caused great pain in the lower part of the body, for which she sought advice, and was told she had prolapsus uteri. She left her situation for a lighter one. Still the pains continued, and she suffered much whenever she sat down. After the inflammation had subsided, a sponge was introduced as a pessary, but could not be borne. After a while, Gariel's pessary was tried, but with no better result. On examination now, the cervix was found to be very low in the vagina, and elongated; the fundus occupying its normal position. The sound measured about three and one-half inches, but did not seem to have reached the fundus. Symptoms of peritoneal inflammation having followed the examination, leeches, blisters, and poultices were ordered. The inflammation gradually subsided, and, on a vaginal examination, the uterus was found retroverted.

"Finding that rest and treatment did no good as regards the allongement or lengthening, while all else had improved, and the parts quiet, amputation of the cervix was determined upon, and performed by M. Maissonneuve, who removed about three-quarters of an inch on the 22d of October.

"*November* 21*st*.—Patient left the hospital in a greatly improved condition. She married soon after, and was comparatively well when last seen."

This form of cases M. Bernütz not only considers as congenital, but also hereditary in some cases. At any rate, the elongation was, in both these cases, prior to pregnancy, as it was in two of M. Huguier's cases, and in my own case at the Charity Hospital. In the first of M. Huguier's cases, the patient menstruated at nineteen and married at twenty-one. When she was twenty-four years of age, not having yet been pregnant, she felt, after lifting a heavy weight, a sudden sensation, as though something had given way in the abdomen, attended with violent pain in the back. As the acute symptoms abated, the cervix protruded at the vulva. M. Huguier found elongation of the uterine cavity, and well-marked prolapsus. The sudden appearance of the cervix at the vulva is explained, if we suppose that supra-vaginal elongation was already present, without giving rise to any symptoms, until the strain, by causing prolapsus, revealed the malformation.

The second patient, after having (Observation XXII.) been struck upon the abdomen when sixteen years of age, suffered some pain for a time, and soon after the cervix appeared at the vulva. We may take it for granted that these few cases show that this affection may exist previous to gestation, and that this peculiar form of the disease may be overlooked, until the accouchement has brought it to light. The congenital elongation may exist apart from prolapsus, and no morbid symptom originate therefrom, until some mechanical or other causes induce a congestive action, when all the symptoms of true and recent prolapsus will become evident.

I have only a few words to say on rectocele and cystocele, as causes of, or in aiding, the elongation of the cervix.

M. Cruveilhier attributes the elongation in these cases to the dragging and pulling of the attachments of the bladder and rectum. It is not necessary for both to exist, to produce it, for true rectocele alone will produce it. Partial cystocele, and rectocele, which I have in many cases seen existing together, may act in quite an opposite way. They may and do become the natural pessary to prevent the farther descent of the uterus only an inch from the vulva, or even sometimes as high up as the middle part of the vagina.

The facts here related show that we may have—1. As the most frequent cause, an enlarged non-involuted uterus, body and cervix. The cervix, becoming lengthened during gestation, and remaining so after delivery, and gradually becoming prolapsed, eventually becomes lengthened by its own gravity, and finally elongated to several inches, while the fundus may remain at the superior strait, if bound down by adhesions, or a chronic cellulitis, or it will be retroflexed internally, or becoming totally procident, with retroflexion externally, and with eversion, partial and complete, of the cervix uteri.

2. The disease may be produced through any cause that may induce congestion of the uterus, and treated accordingly.

3. It may be congenital.

In the external tumor the uterine neck is found presenting different aspects according as the neck is healthy or diseased. Sometimes the orifice is so small as scarcely to admit the smallest probe. At other times it is, without being in a patho-

logical state, partially or completely everted through its whole length, measuring in some instances from three and a quarter to three and a half inches in diameter. Cases of this nature have been mistaken and considered as a large hypertrophy of the cervix, and have been treated for that disease. This form of the cervix has engaged my attention for a number of years, and for this reason I will offer a few remarks upon it.

The partial or complete *eversion* of the cervix may exist previous to procidentia, and then it acts as a prevention of prolapsus of the uterus. It is more generally noticed after the uterus is procident. This eversion is frequently found in those who have had children, though it *may* be recognized in the primipara. In Boivin's case it was congenital. It was noticed in a very young woman, brought into the "Maison de Santé" in a dying state, with fever, and who died the next day. On *post-mortem* examination the uterus was found internally of a bright-red color, the tissue soft, within the body and cervix of the uterus. The os uteri was everted so as to present a kind of broad, flattened ring around the cervix uteri, in which the inferior and vaginal portion of the cervix was retroverted.*

Scanzoni (page 144, American translation), speaking of the pathological anatomy of the uterus in procidentia, remarks: "The vaginal portion, ordinarily hypertrophied, often hardened, but sometimes also much tumefied and softened, shows a discoloration of a bluish red or slate gray. Around the orifice it is deprived of its epithelium, and covered with erosions and ulcerations more or less deep. Often, after a long duration of the disease, there is a true inversion of the neck. The orifice dilates at first insensibly, and its borders form a circle from one inch to one inch and a half in diameter, through which the neck is everted in such a manner, that the mucous membrane, covered with the glairy mucosity peculiar to the neck, forms after death a bluish-red ring around the orifice which leads to the cavity of the womb."

M. Huguier, page 347, in his monograph, remarks: "There is a third cause of increase (while speaking of the causes of eccentric hypertrophy of the infra-vaginal portion of the cervix)

* Boivin and Dugés (page 99), Heming's translation.

of the uterine orifice, of which the mechanism is physiologically pathological, and entirely without all kinds of traumatism.

"In certain females who have not had infants, but who have suffered for a long time with complete inversion of the vagina, the uterus, in consequence of its increase in weight, tends more and more to descend, and to precipitate itself outward; but it is arrested by the resistance of the vaginal walls, which will not yield, nor prolapse any more, and then they exercise a traction from the centre to the circumference, or, if you wish, from within, outward. The eversion of the vagina causes it to reach sometimes the internal surface of the neck."

Jobert, Huguier remarks, "appears to us to have been mistaken when, in a lecture which he gave, while referring to this point, he attributes the increase or widening of the infra-vaginal portion of the cervix, and the eversion of its edges outward, to certain muscular fibres of the cervix." Both of these authors refer to the *inferior* or vaginal part of the cervix uteri as being everted, and term it *extroversion.*

Tyler Smith, in his article on Leucorrhœa (*Medico-chirurgical Transactions*, vol. xxxv.), gives a plate of a partial eversion through congestion of the cervix, to show that ulceration of the cervix uteri is mistaken sometimes for a partial eversion of the cervix. Boivin and Dugés, Scanzoni and Huguier, make the diameter of the cervix, when everted, from one inch to one inch and a half. This form is very frequent, but the cases I have brought forward and referred to, of which representations are given, measured from two and a half to three and a half inches, precisely double the length of the cervix, and are thus complete eversions of the cervix uteri.

The affection is not very infrequent. Klob, in his "Pathological Anatomy of the Female Sexual Organs" (American translation by Kammerer and Dawson, 1868), remarks, under the head of Prolapsus Uteri, that "a peculiar condition of the cervix uteri is found in the higher degrees of prolapsus uteri. As mentioned above, the external orifice in many cases is so dilated that the cervical canal may be viewed half way up. In some cases the eversion of the cervix may reach such a degree that the internal orifice becomes the external one, the entire cervical canal being everted. The eversion, however, of the

latter is never so complete as that of the vagina; the inner surface of the cervix may become the inferior one of the *tumor* forming the prolapsus, but it is *never* rolled out so far as to form its external surface." In these cases the mucous membrane of the canal, when everted, appears as a bluish-gray ring encircling the entrance to the uterus.

I am gratified to adduce the testimony of the authors as cited, and especially Klob's corroboration of my views on this subject, who gives us the latest pathological view on the subject of eversion of the cervix uteri.

FIG. 2.

HALF NATURAL SIZE.

When I presented this subject before some medical associations, it was deemed unusual, and even excessively rare, and some considered it as impossible.

The cases under my observation were generally complete eversion of the whole cervical canal, and the colored diagram will testify to the description as given by Scanzoni and Klob. The colored plate (Bridget Mathew's case, Case 8) represents the uterus prolapsed, with the cervix everted, having a partial

cystocele and rectocele; and the second diagram shows the cervix reverted. The third plate (a woodcut, Fig. 2) shows the uterus returned into the vagina, and the natural appearance and size of the os uteri.

The mechanism of eversion is simple, and presents no difficulty of explanation. In several instances after the rcëversion had been made, and the uterus returned into the vagina, by introducing the speculum, the eversion can be seen gradually taking place, as the uterus is again becoming prolapsed along the vagina, as the speculum is withdrawn. It will become completely everted after the uterus becomes procident. It is rolled out in the same manner that the horse's anus is after defecation, just before the closure of anus.

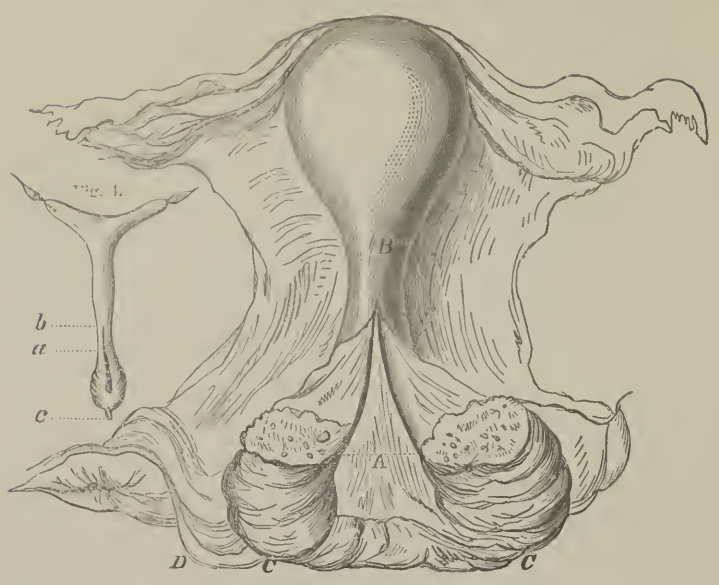
PATHOLOGICAL ANATOMY.

Case reported by Dr. O'Dwyer, House Physician in Charity Hospital.—Hannah Beattie, aged forty years (Ireland), widow, admitted into fever department of the Charity Hospital, Blackwell's Island, December 24, 1867. Suffering from general peritonitis, and double pleuritis. Says she has suffered several years with falling of the womb. Has one son living, nine years of age. She was admitted in a moribund condition, and died on December 25, 1867. On *post-mortem* examination, the uterus was found protruding about two and a half to three inches beyond the vulva (see diagram), with the following measurements. In contrast with this morbid specimen (Fig. 3), which shows the isthmus of the cervix uteri as being the part which is elongated, is a copy of M. Guyon's plate of the isthmus of the cervix as delineated of the natural size.

Measurements of the specimen.

Externally from anterior lip to fundus	$5\frac{7}{8}$ inches.
Internally from anterior lip to fundus	$5\frac{1}{4}$ inches.
Length of body from fundus to the commencement of cervix	$2\frac{1}{4}$ inches.
From the commencement of cervix to the os internum (intermediate part)	$1\frac{3}{4}$ inch.
From the internal os to the commencement of everted part of cervix	$\frac{1}{2}$ inch.
From the commencement of the eversion to os tincæ	$\frac{3}{4}$ inch.
Transverse measurement of everted os	$2\frac{1}{2}$ inches.
Antero-posterior	$2\frac{1}{2}$ inches.
Transverse measurement at the isthmus	$\frac{3}{4}$ inch.

Fig. 3.



HALF NATURAL SIZE.

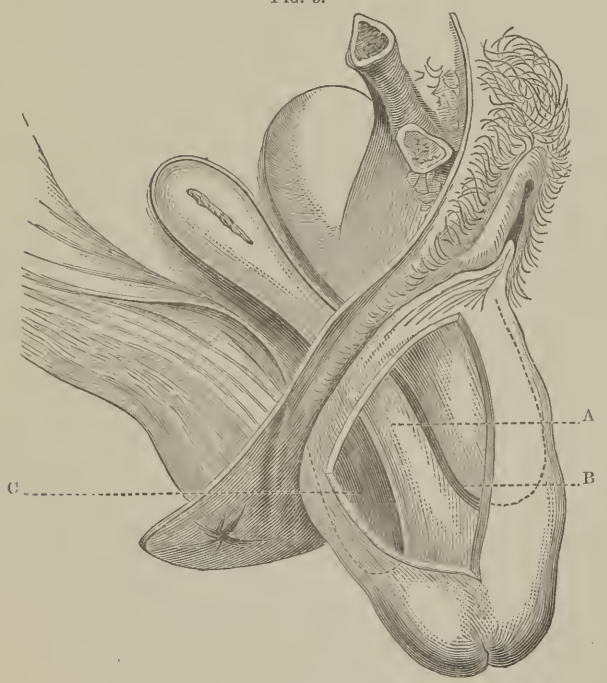
Fig. 3.—A. B. Intermediate part of the cervix, or isthmus.
A. Internal orifice of the uterus. C. External orifice everted. D. Posterior part of vagina.
Fig. 4.—Cast of the internal part of the uterus, after M. Guyon, showing the isthmus.

By the diagram it appears, from the measurement, that the glandular part of the cervix is one inch and a quarter in its natural length, and from the os internum to the body of the uterus—the intermediate part or isthmus of the cervix, which, according to the anatomical views of Sappey and Guyon (see Fig. 4), is one-third of an inch—has, in this specimen, increased to one inch and three-quarters, or twenty-one lines, being sixteen or seventeen lines more than natural.

The body, naturally one inch and a sixth (Sappey's measurement), has increased to two inches and a quarter, or twenty-seven lines, nearly double. The specimen presents the lines of demarcation of each part of the uterus so perfectly that there can be no difficulty in defining them. We find the body twice its natural length, and the isthmus, or intermediate part, increased seven times its length, presenting a long, cylindrical, contracted appearance, in contrast to the body or everted

thickened cervix, infra-vaginal portion. The natural breadth of the supra-vaginal portion is preserved through nearly its whole length. If we compare the appearance of the cervix with Cruveilhier's plate, and the appearance and measurements with those of Bernütz and Huguier, we will perceive that the elongated appearance is solely in the intermediate part of the supra-vaginal portion, between the os internum and the body. In the case of Bernütz, taking Sappey and Guyon's measurements of a normal multipara uterus, it would be two inches. In M. Huguier's case, the longest of all his three morbid specimens (Observation XV., plate 5, No. 4), although there were no distinct lines of demarcation between the body and the internal orifice, the isthmus would present five inches.

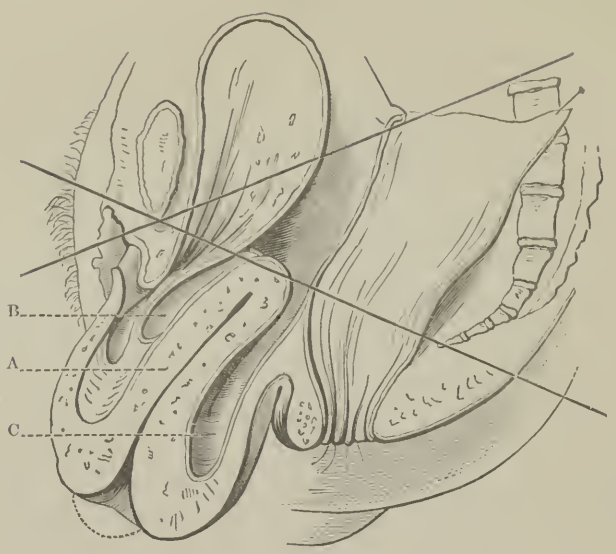
FIG. 5.



HALF NATURAL SIZE.—(AFTER HUGUIER.)

A. Isthmus or intermediate part.
B. Anterior peritoneal cul-de-sac.
C. Posterior peritoneal cul-de-sac.

Fig. 6.



HALF NATURAL SIZE.—(AFTER CRUVEILHIER.)

A. Isthmus or intermediate part.
B. Anterior peritoneal cul-de-sac.
C. Posterior cul-de-sac.

The uterus, in M. Huguier's case, measured eight inches in length, which is very unusual, and seven and a half inches internally. The proportions are nearly the same for the isthmus as in the case of M. Bernütz and my own, considering the length. In the three morbid specimens which have come under my observation, the same appearance of narrowing existed in that part of the uterus, and it can be demonstrated that there is an elongation of the cervix in the supra-vaginal portion of the uterus, or, more truly, in the intermediate part.

If to the non-shortening of the cervix uteri (as is represented in the diagram, during pregnancy, Fig. 1) there is added non-involution, the uterus will descend by its own gravity, and become, at first, partially prolapsed, then retroverted, and frequently retroflexed.

From its ductile nature, and ramollissement consequent on gestation, the cervix gradually becomes more and more elongated, until the uterus reaches double its natural length, and

sometimes even to seven, eight, or nine inches. This view is corroborated also by the evidence of the two cases I have referred to, during pregnancy, when the cervix was lengthened to at least five inches in one, and five inches and a half or six inches in the other. The body of the uterus could not by any of the measurements which would be admitted, if pregnancy existed at three months and a half, be more than four or five inches in length or breadth.

If these views and investigations are correct, they tend to a practical solution of the question of the *so-called hypertrophy* of the superior part of the cervix.

As a further and additional proof, when the uterus is returned into the pelvis, as was supposed by Aran, it has diminished, to *all appearances*, even by the use of the sound, to the extent of one inch. I have, however, referred before to M. Aran's views on this point, and established the fact that the womb is not diminished in length, but is simply retroflexed or doubled up. If a true organic hypertrophy existed, this would or could not occur. I have quoted the opinion of M. Cruveilhier, that the weight of the uterus aided materially in the falling of the womb, though M. De Paul considers this cause as secondary, and attributes it to the particular state of the vagina and the softening of the tissues. He accounts for the lengthening and contraction in this manner: "When a portion of the cervix escapes from the vulva, the resistance is a kind of constriction or narrowing exercised by the inferior orifice of the vulva, producing a kind of strangling, which becomes an efficient cause of a secondary lengthening of the cervix, which is prolapsed, and assumes the form of a calabash."

Now, this form of the uterus will frequently depend upon the inferior part of the cervix, whether it is everted or not. M. De Paul admits the softening and relaxation of the pelvic tissues. The *post-mortem* investigations of M. Huguier, and my own, show that the ligaments are stretched, and sometimes slightly ruptured in one or more places; the constrictor-vaginal muscles were also ruptured; the fibro-dartoid vulva ring (so well described by Richet) was also affected; the perinæum diminished in length, and, if not relaxed, was ruptured, and thus the intercrossing of the sphincter ani was de-

stroyed, and the support and prop of the whole pelvic viscera gone. There is, therefore, nothing to produce a constriction in the cases of those who have had children, or even in those cases where a relaxed and debilitated constitution exists. If M. De Paul had remembered that the narrowest part of the constriction is above the sphincter muscle, he would have seen that the cause which he alleges producing the contraction cannot be accepted.

It has been asserted by M. Huguier that the body of the uterus seldom or *never* leaves completely the pelvic cavity. The posterior peritoneal cul-de-sac in the specimens I have seen is much lower than the anterior, and varies from one inch to three or four inches in length. I have also noticed it in a few instances so extensive as to cover the whole vulva, presenting a large oval shape, like an ostrich-egg, and having an elastic sensation, but not giving a tympanitic sound on percussion. In fact, it is a true procidentia of the posterior vaginal wall.

The posterior cul-de-sac is, therefore, in this kind of procidentia uteri, composed principally of the peritonæum, which has been dragged down, and doubled to the extent, externally, of from one and a half to two or three inches. The anterior layer of the rectum will remain intact in the greater number of cases (see plates of M. Cruveilhier, M. Huguier, and my own), unless a diverticulum has been created by hardened fæces accumulating in the lower part of the rectum, as exhibited in M. Cloquet's diagram.

In all the cases I have noticed, I have found the anterior part of the rectum forming a very slight portion of the prolapsed uterus. This part is the peritonæum, elongated and prolapsed. I know it is considered that the large swelling at the posterior part of the procident uterus is filled with portions of the intestines. Cases have been recorded where the tumor was enormous, and the small intestines even have occupied it (Hodge, Davis, and others).

M. Cruveilhier, in 1842, previous to the publication of his celebrated "Pathological Anatomy," remarked that "the anterior cul-de-sac is so small as not to admit the small intestines, while the posterior cul-de-sac may admit a very great

quantity. It is in cases where the tumor formed by the falling of the uterus acquired a development so considerable as the child's head." M. Cruveilhier, however, afterward, in his "Pathological Anatomy" (p. 576), in 1849, says, positively, that he has "never encountered this appearance in the cadaver," and asks the question, "How shall we explain this invagination of the size of a child's head without it (the descent of the intestines)?"

It is very apparent from the morbid specimens examined by MM. Huguier, Bernütz, Cruveilhier, and myself, that there is no descent of the anterior part of the rectum; but the tumor is formed solely by the peritonæum, and this condition, with the softening of the pelvic tissues, sufficiently explains it.

If the anterior part of the rectum has prolapsed, then there could not be any retroflexion externally; if the anterior portion of the rectum was not prolapsed, but simply the peritonæum, then the body of the uterus, which is generally large and retroflexed, and the long slender cervix, will press the posterior part of the vagina against the rectum, and prevent the rectum or the intestines from coming down. The same would be the case if the uterus is prolapsed, and retroflexed externally. (See Fig. 7.)

Diagnosis.—In diagnosis we have to distinguish between the true and the simulated prolapsus. The differential diagnosis respecting other diseases I shall exclude. In the investigation of these cases we depend in a great measure upon the sound. It was the use of the hysterotome that led M. Huguier to the discovery of this form of procidentia uteri. The sound has, as we have seen, been resorted to before by Morgagni and Levret. The presence of a part, or the whole uterus, may be confounded with or mistaken for true and simple prolapsus. In the ordinary or true descent of the womb, the depth will be two and a half to two and three-quarter inches. In the elongation of the cervix, the sound penetrates twelve, fourteen, or even twenty centimetres, i. e., three and a half, four and a half, or six inches.

The sound also permits us to ascertain the direction of the axis of the uterus, and its relation to the pelvis; whether the

fundus remain in the normal position in the pelvis, or above the superior strait, and floating in the abdomen; whether the body is retroflexed internally, or whether the whole uterus is prodident and retroflexed. It is requisite that care and caution should be exercised in the examination of these cases. Aran, as well as others, has suggested that a flexible sound should be substituted for the metallic one, or, as some prefer, a very slender, flexible metallic sound. The reason alleged for its use is, that the structure of the uterus has undergone the modification of softening, and the metallic one might perforate the parietes of the uterus. This fear I believe to be groundless. The ordinary instrument was found preferable in my investigations, and passes without any liability of being arrested by, or coming in contact with, any of the folds of the mucous membrane in the cervix, or the curvature of the cervix itself, if retroflexion exists. It is more distinctly felt in the cervix uteri by the vaginal-rectal or double touch.

Force or harsh treatment is to be condemned; gentleness and tact, slight and easy movement of the instrument, will succeed. The sensation communicated to the fingers when it has reached the fundus is easily recognized. Softening of the uterus in excess, in these cases, is not by any means frequent. It may be, and is in some instances, quite flabby in cases a few weeks after gestation, or in those cases, which occasionally are seen, called the *squatty* uterus, and to which Dr. Rigby invited the attention of the profession a few years since, and which are not infrequent. These cases are also sometimes observed in young women, and the uterus will then measure three and a half to four inches, after amenorrhœa of three or four months' duration.

More generally the tissue of the womb preserves its natural firmness. I have not seen, in any of my cases where the sound was used, an endometritis or a cellulitis follow, though I use it to ascertain the partial inflammation of the body of that organ.

In the 76 cases which have come under my notice, including three *post-mortem* specimens, of prolapsus or procidentia uteri, during the last eight years, the following is the result:

Of 76 cases, with 29 operations, 26 were successful.

In 48 cases the uterus was hypertrophied, measuring $3\frac{1}{2}$ to $4\frac{1}{2}$ inches—45 of these were the result of non-involution—of this number, there were 8 operations by amputation of the cervix, and 4 with episio-perineoraphy.

In 8 cases there was retroflexion externally, with the cervix in part or wholly everted. In 3, the measurement was $1\frac{1}{2}$ inches to 2 inches. In 4, from $4\frac{1}{2}$ to $5\frac{1}{2}$ inches. The 4 cases were operated upon, and the perinæum closed.

In 15 cases, there was true elongation or so-called hypertrophy of the supra-vaginal portion of the cervix, with the fundus in the normal position, or the body retroflexed either internally or externally. In these 15 cases there were 13 operations by amputation and perineal closures; 3 cases were observed in gestation, 1 at three months, 2 at three months and a half. In these cases the uterus measured $9\frac{1}{2}$, $10\frac{1}{2}$, and 11 inches in length.

In 3 cases, there was true simple procidentia, $2\frac{1}{4}$ to $2\frac{1}{2}$ inches.

From this investigation, can we believe it is true, as M. Huguier has stated, that the rarity of true procidentia uteri without any elongation is in the ratio of 1 to 32?

If we count the cases wholly procident—with the 3 cases also completely external, with retroflexion, making 6 cases—we shall have (including the 3 morbid specimens) the proportion as 1 to $12\frac{5}{6}$, instead of 1 to 32 cases. I believe this experience will be found to correspond with the experience of those who may have given this disease their attention. M. Huguier cites but one case of retroflexion of the uterus externally, out of the 64 cases. Dr. Sims says he has met with only a very few cases of this character, and remarks that, "if the body of the uterus passes out of the pelvis, there is no supra-vaginal elongation." This opinion, from my experience, is not established.

Independently of the sound, other means of exploration are adopted; the vaginal and rectal touch is most important. The double touch is highly necessary where one finger is introduced into the rectum, and the thumb into the vagina, and

then grasping the cervix. In simple procidentia without elongation, the double touch recognizes clearly the fundus uteri, and also that no body or substance intervenes between the fingers. On the introduction of the sound, the end of it will be perceived at the fundus externally. The same method of grasping the uterus, when retroflexion exists, will be amply sufficient to satisfy our minds in this case. In the supra-vaginal elongation of the cervix, the vaginal examination recognizes the long, cylindrical neck, which is confirmed by the rectal touch. The double touch recognizes the same, and the cylindrical tube may be felt and grasped, and moved about in the pelvis. If the fundus is in the normal position, it cannot easily be felt, unless the sound is used, when it may be found by external abdominal examination, even with the superior strait, or sometimes above it, while the cervix is external. This, however, is not by any means according to my experience; for the uterus is generally retroflexed, the cervix being from 1 to 2 inches external. The vaginal and rectal touch will recognize the end of the sound at the fundus of the uterus; and the uterus may, sometimes, then be raised to the superior strait, provided no peritoneal adhesions exist, or that it is not prevented by some mechanical cause. Without these investigations, the presence of a part, or the whole uterus, may be mistaken for a true elongated hypertrophied cervix. In the complete falling, the fundus is on a level with the vulva, or just within the labia. It is at this point, I think, we may explain how the prolapse occurs in these cases. The simple prolapse has been compared to an ordinary hernia. The womb represents the intestine, the suspensory ligaments the mesentery; the perinæum is considered as the abdominal parietes, the vulvo-vaginal canal as the ring. When, therefore, the suspensory ligaments are relaxed, the uterus pushes incessantly as a wedge against the perinæum, glides by it, dilates the vagina, and passes out of the vulva.

If the vagina is very much relaxed, or the perinæum ruptured, the suspensory ligaments resist for a time, but eventually the uterus, which was retroflexed internally, passes out and becomes doubled up or retroflexed externally. In the simple prolapse, the reduction of the organ is easy; congested by too

long a procidence, it will become painful, and sometimes a slight gurgling is heard from the intestines wedged in the posterior peritoneal cul-de-sac. When the uterus is returned into the pelvic cavity, it becomes retroverted. There is difficulty sometimes in reducing the uterus with elongation of the cervix, if of long standing, especially if retroflexed externally; and, when returned, it will become doubled up. Should there be any sensitiveness of the cervix or the whole uterus, it is better to overcome this irritation before reduction.

It is evident that the disease or affection first suggested by Levret was entirely overlooked or forgotten by nearly all gynecologists down to the present time, until it was first referred to by Cruveilhier, and ably and fully presented by M. Huguier lately, and now demands the attention of the medical profession.

Aran considers that this elongation is only *apparent*, and that after he had measured, in some cases, the same uterus attentively before and after the reduction of the prolapsus, it was less than when it had been prolapsed. If so, the elongation was consequent upon the prolapsus, which may be recognized in some cases. Kiwisch has also alluded to the same circumstance, and remarks, that, "if the uterus, which measured $4\frac{1}{2}$ to 5 inches when the cervix was external, was returned, the uterus would only measure 3 inches." The observations of Aran and Kiwisch show the ductility of the uterus, but the nature of the affection remains the same. They have, however, I think, not fully recognized the true nature of the case. The uterus becomes retroflexed when fully returned, and if it measured from 4 to 5 inches before reduction and 3 inches after reduction, it will, if the organ is elevated (when wholly returned) to the superior strait, measure the same as before it was reduced. The falsity of the measurement is owing to the curvature at the neck, for it is doubled upon itself, retroflexed. The general measurements of M. Huguier's cases, out of the sixty-four, according to his own statement, were $3\frac{3}{4}$ inches. As my attention for many years has been given to this subject, I have measured not only the procident uterus, but the uteri of those who have had children, and were not complaining of any symptom of prolapsus:

1. In those women who have been recently confined.
2. After two or three years' confinement.
3. After the cessation of the menses.
4. In many cases for so-called chronic inflammation.

In a large number of the cases the uterus was found from 3½ to 4 inches—the majority 3½ inches. I believe it will be ascertained that this is a more correct estimate of the size of the uterus in women who have had infants, than the usually recognized standard of 2½ or 2¾ inches in the living subject.

The different appearances of the forms of uterus, prolapse with descent of the body, and prolapse without sinking of the body (Virchow, Huguier), have been dwelt upon under the pathological observations, and need not be referred to again.

Treatment.—In order to the correct and rational surgical treatment of procidentia uteri, it is necessary for us to fix on the exact nature of the pathological lesions which constitute, or which give rise to it. From the preceding reviews of the pathology of this affection, it is apparent that we have two varieties, namely—simple prolapsus without hypertrophy, which is rare, and prolapsus with or without hypertrophy and elongation of the supra-vaginal portion.

To the last variety, our attention is especially directed. The cause is inherent in the uterus itself. The increase of its length may be in the cervix, or cervix and body together, or more generally in the *intermediate* part or isthmus. All cases connected with polypi, ascites, ovarian tumors, or the simple prolapse, with or without retroflexion, as I have stated above, are excluded in the consideration of the present subject. Generally three indications are to be fulfilled in simulated procidentia uteri:

1. To replace the uterus in the vagina, and retain it, by the T bandages or with the abdominal truss.

2. To maintain the uterus in its place by tentative means or appliances, such as the various forms of pessaries, vaginal or intra-uterine.

3. To maintain the uterus in a permanent manner, or by the radical cure.

It is the third method which I propose to consider, i. e., the radical cure.

Before referring to the surgical treatment which I prefer adopting and advocate, I desire to pass in review the different methods which have been resorted to, as wrong impressions and some confusion exist respecting them, as they are considered or spoken of at the present day.

The operations practised, with the intention of mechanically preventing the descent of the womb, are the following: 1. Infibulation. 2. Episioraphy. 3. Episio-perineoraphy. 4. Elytroraphy, Anterior and Posterior. 5. Elytro-Episioraphy. 6. Amputation of the cervix uteri, with or without a removal of the supra-vaginal portion of the cervix, conoidal in shape, as recommended by M. Huguier.

Infibulation consists in the union of the labia majora. Schaeffer, in 1856, practised this method, and was perfectly successful. Afterward Klein adopted it, but, instead of using *one* suture for the operation, substituted two. In his case the uterine cervix passed through the inferior part of the vulva, and was wounded by the suture. The operation did not succeed. Aran has lately proposed this operation, and practised it four times. In one case, the accident that befell Klein happened to Aran—the suture passed through the cervix uteri, which had escaped below, and was strangled. The other cases did not succeed. This method of relieving prolapsus has not been very successful, and cannot be, except by completely infibulating the whole vulva.

2. *Episioraphy* was first suggested by Frieke, of Hamburg, in 1833, who operated by removing portions of the mucous membrane ¾ to 1 inch from the edge of the labia, and carried it down to the frænum, so that a portion of the labia an inch in breadth is removed, and the same repeated on the other side. The edges are then brought together by ten or twelve stitches. This operation was adopted by Velpeau, also by Scanzoni, Roux, and by Stoltz.

3. *Episio-perineoraphy.* This is a modification of the former operation. It is the extension of the incisions on the perinæum, so as to give a greater resistance to the parts on which the prolapsus acts, and to correct the relaxation of the tissues of the perinæum, or to remedy the rupture, if any exist. This mixed method has been employed by Stoltz, of Strasburg.

The credit of introducing it is due to J. Baker Brown, of London, who popularized the operation. The success of this method of operation, whether for prolapsus uteri in some instances, or for ruptured perinæum, or for true vaginal rectocele, is, I believe, complete. Where care in denudation of the mucous membrane has been observed, and the parts are nicely adjusted, reunion of the parts, as a general rule, is seldom wanting. There is little or no risk in the operation. Since J. Baker Brown's method was presented to the profession, various modifications in respect to the form of the denudation of the mucous membrane, or the kind of clamps or bars or the tying of the sutures, with their different adjustments, have been made. The exceptional cases are those of a syphilitic nature, or strumous diathesis. Geddings, Savage, May, Gamgee, Teale, Malgaigne, and others, have performed it. Hilton, in 1854, before the operation, preferred dividing the sphincter ani; and Oldham, in 1857, adopted the same views, with complete success.

4. *Elytroraphy, Anterior or Posterior.* Gerardin proposed to remove a slip from the circumference of the vaginal mucous membrane of an inch in diameter near the os uteri, when the uterus was external, and afterward to return it into the vagina, and allow it to heal up by granulation, and thus produce contraction of the vagina at the superior part. The name of Elytroraphy was given to this method of operation by M. Berard, Jr. There has been much controversy in regard to the origin of this operation. Velpeau, in a clinical lecture, says: "The first idea of this operation is due to Gerardin, who described it in a memoir which he presented to the Société de Médecine de Metz or Nancy, which, however, was never published. He proposed to *contract* the vagina, and, if necessary, even to obliterate it in women who have ceased to menstruate. In his letter to the Academy, he says that before 1823 he had proved that the pessary might be replaced by and the cure of prolapsed womb *radically* effected by a surgical operation," which is stated above. It is, therefore, possible that Marshall Hall might have been aware of Gerardin's suggestions before he proposed his operation, which was performed by Heming, November

19, 1831. If Dr. Hall derived any benefit from Gerardin's suggestion, his operation was different in its locality, and the method of producing a contraction of the vagina. The credit is usually conceded to Dr. Hall for his method of operation. A mistake exists in the minds of the profession, respecting the form or shape of the portion he had removed from the mucous membrane of the vagina. It is generally spoken of as elliptical. This is not as it is described by Dr. Hall himself, in the *London Medical Gazette*, vol. ix., page 269. He says: "The uterus being protruded as much as possible by the efforts of the patient, *two parallel* incisions were made through the mucous membrane from the sides of the os uteri, along the course of the protruded vagina to the os externum; the portion of this membrane situated between these incisions was then removed, leaving a space of 1½ inches in breadth, and of the entire length of the vagina, completely denuded. A suture was then inserted *near the os uteri*. This suture being tightened, the os uteri was pushed upward; a second, and a third, and others were inserted in the same manner, at short intervals, to the os externum." From this description it appears that the form of the part of mucous membrane removed was of a *parallelogram*, and *not*, as it has been supposed, *elliptical*. The case was successful, and remained so when examined several years afterward.

The *elliptical* shape for denudation belongs to Dr. Ireland, of Dublin, who, in November, 1834, operated for procidentia uteri. The operation of Dr. Hall was modified by "dissecting a slip of the mucous membrane from the lateral portion of the vagina, about 1½ inches wide, extending the whole length of the tumor, from the os uteri to the os externum. The incisions were parallel, except at the commencement and termination of each other, where they suddenly converged, leaving an intermediate portion of the vagina free." Dr. Ireland preferred this method, because it was more safe than Dr. Hall's, as the operation would be performed between the rectum and bladder. Dr. Irving, of Dublin, also adopted this modification in his case in 1834. Both operations were successful.

In August, 1835, Velpeau modified Drs. Hall and Ireland's operation, and reported to the Académie Royale de

Médecine a case in a woman about fifty years of age. He removed three strips of mucous membrane from the vagina, one anterior and two lateral; each of them was 10 lines, or $\frac{5}{6}$ of an inch wide, and the whole length of the vagina. "The woman had been cured for two months" when last seen. M. Maingault objected to the operation, as it would prevent the female from becoming a mother, and would entail serious inconvenience in case of accouchement. M. Velpeau, in reply to this objection, remarked, that "there existed facts which tended to prove that the cicatrices of the vagina will yield sufficiently to permit the passage of the fœtus."

At the same session of the Académie, M. Berard, Jr., presented a woman on whom he had practised the operation of Dr. Hall with full success. In the cases of three females operated on by him, two had been radically cured.* All these cases were treated by the silk suture.

But, prior to all these cases, Dr. J. F. South, of London, as far back as 1832,† operated for prolapse of the bladder, with procidentia uteri, and removed an elliptical portion of the vagina, extending within $\frac{1}{2}$ an inch of the os uteri, and down to the os externum, using the metallic sutures (platina). The operation was not successful the first time, but the second operation was. In this instance, the position of the patient to be operated upon was standing, with her body bent at right angles, with her legs and arms resting upon a table, and the pelvis higher than the shoulders. A pewter speculum, slit lengthwise, and the edges widened, was introduced into the vagina, with the gap in front; the labia held apart by the assistants, and the perinæum *pressed up* with the speculum; the same method of excising portions of the mucous membrane as in the first operation. Patient did well this time.

After an interval of several years, in 1856, Dr. Marion Sims operated on a case of procidentia uteri, and, to quote his own words, "*seriously proposed* to this lady to make a complete *vesico-vaginal fistula* by *removing* at once, as it were, a large portion of the base of the bladder, with

* *Archives Générales de Médecine*, tome viii., 2d series, page 515.

† Chelius's Surgery. Edited by Dr. South.

the anterior wall of the vagina. The portion removed measured $2\frac{1}{2}$ inches transversely, by $2\frac{5}{8}$ inches longitudinally. The chasm was fearful." He further says, "his *surprise* was equalled only by his *delight* that he had not succeeded in doing what he intended." The portion denuded, or rather excised, was of an elliptical shape, the same as Dr. Ireland's, and having no intermediate healthy tissue. Two years afterward, in 1858, Dr. Sims modified his former method, and adopted a V shape, leaving the intermediate space free between the two slips of mucous membrane removed, and not completing the elliptical shape. The denuded surfaces were brought together by metallic sutures (silver).

On July 5, 1861, Dr. Roberts, of Dublin, in a case of procidentia uteri, modified Hall and Ireland's operation, and substituted the *triangular* shape, "by dissecting a slip of the mucous membrane covering the posterior surface of the uterus, brought the edges together by metallic sutures, and removed a similar piece from the anterior surface, and drew the edges together in the same manner, and performed afterward the operation for lacerated perinæum. Patient did well." (*Dublin Journal of Medical Sciences*, vol. xxxii.)

In 1865, Dr. Emmet modified the operation of Dr. Sims of the V shape, by making it a *triangle*, the same form as Dr. Roberts's, but with an intermediate space of *healthy* tissue. The triangle shape was suggested to Dr. Emmet, as he recognized in some of his own patients and those of Dr. Sims, that had been operated upon, the uterus was retroverted, and the cervix caught in the base of the V shape, suggested by Dr. Sims. It appears that the several operations which I have referred to, where the silk ligature was used, up to 1835, and others, where the metallic ligature was adopted, were perfectly successful. My friend Dr. Sims, however, entertains a different view, and says, in his "Clinical Notes on Uterine Surgery," "I do not think the operation ever succeeded till my own day," and this success is due wholly to metallic sutures.

The operation on the vagina, by caustics, lately resorted to in some cases, by Dr. Routh, of London, has not claimed much

attention from the profession. From this *résumé* of the various operations on the vagina, we find that the principal operations at the present day, for procidentia uteri, are: 1. Episio-perineoraphy; 2. Elytroraphy, anterior or posterior, or both at the same time (Dr. Roberts); and, 3. Amputation of the cervix uteri by different methods. Having already dwelt upon the former, my remarks in the few following pages will be addressed to the subject of the amputation of the cervix uteri for this affection. The cases which M. Huguier considers as contraindicating the operation are: "too large a pelvis; too large a vulval opening; a perinæum more or less relaxed or ruptured; a considerable relaxation of all the soft parts that form the floor of the pelvis, or where the body of the uterus is completely without the excavation, or retroflexed in such a manner that the fundus of the organ is lower than the cervix, and do not permit us to hope for success." The cases which have presented themselves for my consideration were many of them of long standing, varying from one to thirty years, and in whom, according to M. Huguier's views, an operation was contraindicated. Some of these cases will be represented by diagrams.

Previous, however, to M. Huguier's suggestions for removal of the cervix uteri for procidentia uteri, Professor Chaumet, in 1845, recommended the following method: 1. Remove a portion of the vagina, as advised by Dr. Hall and performed by Gerardin, Laugier, Professors Velpeau and Berard, Jr.; 2. Amputate the whole or part of the cervix uteri. In the case operated on by Professor Chaumet, the result was in every respect satisfactory; although eight months had elapsed, and the woman had been occupied in the most laborious duties, she remained cured.

Lisfranc gave more currency to the propriety of the amputation of the cervix uteri for diseases of the uterus than any previous surgeon on the Continent, but it was generally for large hypertrophy of the infra-vaginal portion of the cervix. The opinions of several of the more recent gynecologists, such as Becquerel, Nonat, Hodge, and others, give but little, if any, sanction to this method of operation, through mistaken views as to its value. As no description of M. Huguier's operation

has been given by any American authority, I shall be excused for presenting it before I pass to the relations of other methods for amputation of the cervix uteri, according to the nature of the case.

This operation consists in the removal from the superior extremity of the vagina of a portion, or the *totalité*, of the cervix from without inward, after having previously separated the bladder from the part which is to be removed. This has been termed the "conoidal amputation of the cervix uteri." The object of the operation is not only to amputate the supra-vaginal portion of the cervix, but to remove some, or a considerable portion, of the *supra-vaginal part*, which is the seat of the *hypertrophy*. The difficulties consist in the necessity of avoiding the posterior peritoneal folds, and the bladder in front, dangers from hæmorrhage during or after the operation, and the consecutive inflammation, perimetritis.

Previous to the operation, M. Huguier gives special attention to the welfare of his patients, which consists in producing an eruption, by croton-oil being freely rubbed on the thighs, legs, and flanks, and which is done from fifteen to twenty days before the operation, for fear of peritoneal inflammation. The patient is placed in the usual position for diseases of the uterus, on the back, and the procedure of the operation is as follows:

1. "The first step consists in the section of the posterior part of the vagina and neck. The danger is the lesion of the peritonæum. To avoid this, the surgeon introduces his index-finger of the left hand into the rectum, and places it in contact with the anterior part of the intestine. The finger indicates to the eye the limit of the recto-vaginal fold of the peritonæum, and serves as a guide during the whole of the operation. Incising on the finger the portion of the vagina which is inserted on the neck, during which incision the cervix is seized by an assistant with the Museaux forceps in the posterior lip of the os tincæ; then directing the incision toward the cavity of the neck, to avoid the peritonæum, through the thickness of the uterine tissue, obliquely from below upward, and from without inward, as far as it has reached the cervical cavity.

"The second step of the operation consists in the removal

of the anterior section of the cervix. The danger to be incurred here is cutting into the bladder. To arrive at this, he introduces into this organ a sound, directing it below, toward the inferior part of the vesical cul-de-sac, which forms at the anterior part of the tumor. It is then given to an assistant. The anterior part of the cervix is seized by the Museaux forceps, and depressed by the assistant. An incision is made about four lines from the end of the sound, of a horizontal and semi-lunar shape, from the superior convexity, which embraces the anterior part of the cervix, and the extremities join those of the first incision posteriorly. We then separate, by a careful dissection, the bladder from the anterior part of the cervix, in a space from three-quarters of an inch to an inch at most, after which we divide the anterior part of the neck obliquely from above, below, and from below upward, reaching the cervical cavity near the posterior incision.

"The part removed has the form of a cone of which the base is the os tincæ. To avoid the hæmorrhage which follows the operation, it is necessary sometimes to tie the arteries. To prevent the uterus from ascending after the operation, a tenaculum is inserted in the posterior part of the cervix. It is with difficulty the arteries can be secured in the uterine tissue, as it is so dense and friable that the ligatures do not hold the arteries. M. Huguier, for this purpose, has invented a procedure to secure them. It is a strong curved hook, resembling a fish-hook, at the head of which is a ligature, and the ligature is then passed over the artery, and tied. Besides this means of operating, instead of removing the part by the scissors or scalpel, the écraseur may be employed, as was accomplished by Chassaignac in 6 cases. This cannot be applied till the anterior and posterior parts are separated; even then the conical shape cannot be given to it. The écraseur is valuable where there is a vascular neck, or a very large hypertrophied os uteri.

"Should the ligatures not succeed in their application, then the actual cautery, or the persulphate of iron, to arrest the hæmorrhage, should be used. The portion excised being removed, we return the uterus into the pelvis. On the part excised, a mesh of lint covered with cerate is placed, and

this is maintained in position. The cicatrization is complete in from 20 to 30 days. The superior extremity of the vagina is thus contracted or gathered up, and presents a reddish cicatrix, about three-quarters of an inch, at the bottom of which we perceive a small transverse opening. The womb diminishes, in *two* or *three* months, in volume, independent of the portion which is removed, reducing the uterus nearly two inches in its length."

M. Huguier does not perform any operation on the perinæum, as he has given the contraindications for his operation; and the ruptured or relaxed perinæum was one of these contraindications.

I have stated above that the very cases M. Huguier has objected to are the kind of cases which have claimed my attention, and, therefore, deemed that the operation for episioperineoraphy should be performed. If these cases, as M. Huguier considers, contraindicate the operation of amputation of the cervix for procidentia uteri, what operation, may I ask, would be of any value or benefit to the patient? Certainly, elytroraphy, anterior or posterior, with any of the modifications which have been suggested, would not, I think, be likely to succeed. In the cases I have described, if the fundus reaches, or remains in, the normal position, then the elytroraphic operation would either raise the fundus uteri two or three inches above the superior strait, or, if not thus elevated, it will assume the retroverted or retroflexed position. This occurred in several of the cases of Dr. Sims, and was recognized by Dr. Emmet, a few years afterward, by the cervix engaging in the base of the V-shaped pouch which Dr. Sims had adopted. Hence, the V shape was modified to a perfect triangle by having the base made complete. With even this alteration, I am impressed with the idea that it will not prevent the womb from becoming retroverted or retroflexed, if there is the elongation of the supra-vaginal portion, as I have demonstrated. Possibly, I may be mistaken in regard to the kind of cases this operation or method is to be performed upon, as there is nothing definitely stated, either by Dr. Sims or Emmet, as to what kind of hypertrophy it was. Should we judge from what Dr. Emmet says in the concluding re-

marks he makes in his essay on procidentia uteri, we might be enabled to conclude they were *not* cases of elongation. Dr. Emmet says "his method should be resorted to, when the uterus has become hypertrophied, and before it has remained outside of the vagina for years unreduced; before the vagina has lost entirely its contractile power, through the usual systematic course of stretching by pessaries, each from necessity being larger than the previous one in use."

It is more particularly in the exceptional cases, as adduced by Huguier, that I have resorted to the operation of amputation of the cervix uteri for procidentia uteri. I am so convinced on this point, that it is difficult to believe, nor do I see that, any other form of operation, for *simulated* prolapsus could be as successful, unless the special objects, which are to be obtained from the amputation, ensue: 1st, a modification in the size and weight of the uterus; 2d, a decrease of the hypertrophy or elongation—first, by the loss of blood which will necessarily follow the operation, sometimes greater, and sometimes less, and, second, by the suppuration which will take place—and, third, the contraction or lessening of the remaining portion of the cervix.

It is not only in the cases of longitudinal hypertrophy, or elongation of the cervix, that the amputation of the cervix will be necessary, but in cases sometimes of an eccentric character. Dr. Sims incidentally refers to the kind of cases which M. Huguier has described, and remarks upon the objects of the operation for amputation: "I amputate the cervix *only* when its lower segment is too large, or too long, and projects so far into the vagina as to present a mechanical obstacle to the retention of the uterus *in situ*, when replaced" (p. 302). In other words, he only operates for hypertrophy or elongation of the infra-vaginal portion of the cervix.

Dr. Sims, in a short paper on "Amputation of the Cervix Uteri" (*Transactions Med. Society, State of New York*, 1861), after performing the operation of M. Huguier, by removing a conical portion of the cervix, for great engorgement and hypertrophy of the cervix with granular os uteri, remarks: "This mode of operation should not be imitated, for the cicatrization of the wound almost obliterated the cervical canal."

In regard to the treatment of these cases by amputation of the cervix uteri, for their radical cure, or for the greater comfort of the patient, I have been guided by the nature of the case requiring the operation:

1. If there was a uterus with a procidentia, with elongation, having a short anterior and posterior infra-vaginal portion, with no eversion or decided hypertrophy of the cervix, Huguier's operation was adopted, by removing a conical portion of the cervix, though in a different manner from that of M. Huguier, which will be referred to shortly.

2. When there was infra-vaginal hypertrophy, more than ordinary with elongation, the simple circular amputation was resorted to, sometimes by the scalpel, sometimes by the écraseur (double chain or the twisted wire), but more generally by the scissors. Previously, however, to using the écraseur, the mucous membrane was divided completely around the cervix, to prevent the drawing in of the mucous membrane into the chain of the instrument, and thus avoiding the possibility of lacerating the peritonæum.

3. When the cervix was everted in part or in *totalité*, I then performed the operation which is described in case 4, and illustrated in the diagram accompanying it. (Fig. 7.)

4. Should the anterior and posterior labia of the cervix be somewhat elongated and hypertrophied, even with eversion, or without eversion, and the body of the uterus large, I have performed what I shall call the "double-flap operation" (see Case 4, Am. G.). In this operation, there will be but little, if any, contraction of the cervical canal. It leaves the appearance of the cervix as nearly natural as it could well be (see Fig. 11). After the operation, episio-perineoraphy is performed, for a more perfect restoration of the uterus internally, and for a more successful issue.

Dr. Sims, in the ordinary hypertrophy of the infra-vaginal portion of the cervix, excises the cervix by first slitting it laterally, nearly to the junction of the mucous membrane of the vagina with the neck, and then separates the anterior lip first, and afterward the posterior half; then he brings the mucous membrane of the vagina, which covers its anterior part, to join the posterior part, and unites them by three or four

metallic sutures, to produce union by the first intention. I do not perceive that there is any more guarantee in this modification or method from contraction of the cervical canal than by the simple circular amputation. "In all three of the cases" he had operated on by this new method, he says, "menstruation has been easy since the operation, although the os was smaller than natural; but in *each case* I enlarged the opening a little by slight incisions."

The perineal operation might be objected to after the amputation of the cervix, because it may be supposed that, after the removal of the cervix, the uterus will ascend in the pelvis more nearly to its natural position. This is not true respecting the cases I have referred to, but it remains in the pelvis for a short time, until it becomes more reduced in size and length; it then begins to take its natural position. I believe that the perineal operation is *absolutely* necessary; for, if it does not positively *cure* the dilatation of the rectum, or prevent the procidence of the recto-vaginal wall from becoming prolapsed, it will, in time, return to a more natural condition.

The dilatation of the posterior part of the vagina, or the rectum, is not the principal complaint, but only takes place from mechanical causes, in consequence of the loss of support in the pelvic floor. When this support is again supplied, the prolapse of this portion of the vagina, or rectum, will gradually disappear, or, at any rate, is so much lessened as to be of no practical inconvenience. In some cases, where I have had an opportunity of examining after the lapse of some years, and in one case, which I saw in March, 1868, there was not any portion which was found external. The protrusion is not likely to be reproduced unless the womb should become again affected. I have had two instances, where the patients have removed the clamp suture, and then I have substituted the cobbler's stitch for the usual suture, which will be described. I have performed the operation for episio-perineoraphy a great many times for different purposes, and in very few instances has the operation failed. The failure has been in consequence of a syphilitic hypertrophy of the parts grafted on a syphilitic constitution. From experience, and the very nature of most

of these operations, as referred to, and the character of the affection, it is not to be expected that success will result in all. There must be failures, and there will be failures. Yet success will be obtained in a very large number of cases. The operation, by amputation of the cervix, as resorted to by M. Huguier, appears to be rather a formidable one, on account of his removing so large a conical portion from the cervix, as he dissects the bladder and the rectum from their attachments to the uterus, and especially where the lower and upper branches of the uterine arteries course. It is for this reason that severe hæmorrhage may follow, or a perimetritis occur. I do not think it necessary to resort to so extensive a removal of the cervix as M. Huguier, nor could it be extended farther up the cervical canal than the glandular part, as the portion above this is so very narrow, as I have shown.

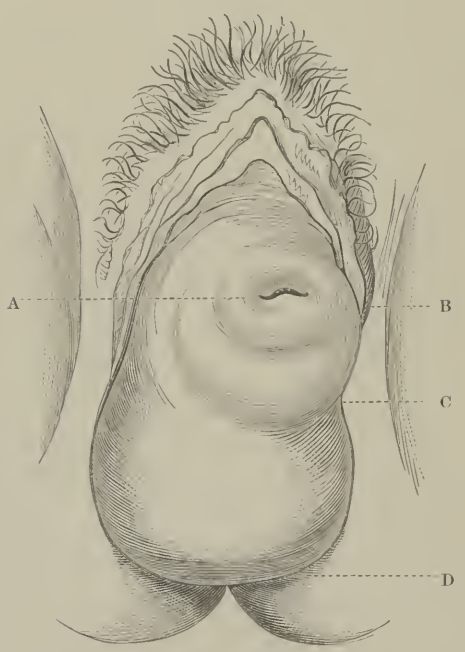
With the different methods I have followed, according to the nature of the case, I do not believe there is any fear of such a severe hæmorrhage, nor risk of a perimetritis or cellulitis, as I have never met with them, and I think the operation *perfectly simple* and *safe*. I have not considered it requisite to prepare the patient for the operation, as M. Huguier suggests. In fact, rest for a day or two, and the bowels evacuated previously to the operation, is all that is necessary. After the operation, the part excised is treated by water or sedative applications during the day occasionally, and the T bandage. In a few hours, or a day or two, the uterus recedes into the vagina, and sometimes at once, and gradually begins to diminish in length, and in the course of a few days will ascend to the natural axis in the pelvis, measuring 2½ inches. After this occurs, the operation of closing the perinæum is resorted to in two or three weeks, the uterus retaining its natural position.

Case IV.—*Complete procidentia uteri of ten years, with retroflexion externally; elongation of the supra-vaginal portion; complete eversion of the infra-vaginal portion; complete rupture of the perinæum; amputation of the cervix uteri. Double-flap operation. Failure of the clamp suture for the perinæum. Successful restoration of the pe-*

rinæum by the cobbler's stitch. Reported by Dr. Everett, House-Physician.

Ann G——, aged twenty-eight years, was admitted into Bellevue Hospital October 7, 1864, for procidentia uteri. Is the mother of two children; the first was born at full term, the second was a miscarriage, at five or six months. She has suffered from procidentia since the birth of her first child, ten years ago. On examining the vulva, the uterus was procident,

Fig. 7.



TWO-THIRDS NATURAL SIZE.

A. Internal orifice. B. Internal part of the cervix uteri. C. External orifice or os tincæ. D. Fundus uteri.

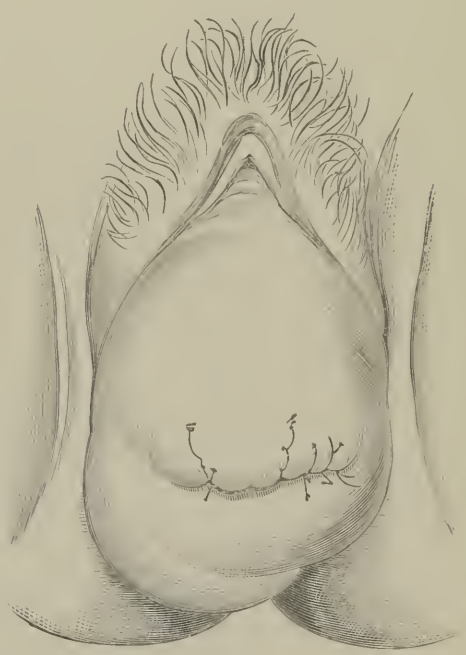
with complete retroflexion externally. The cervix was discovered very large, and totally everted, measuring three and a half inches in diameter, presenting a bluish-red appearance; the large globular substance hanging down was recognized as the fundus and body of the uterus. The rectal touch could feel

nothing of a uterus in the pelvic cavity, and the sound introduced into the bladder could be felt when the end was turned to the rectum. The sound introduced into the uterus gave a measurement of 5½ inches, while in the retroflexed condition externally. When the uterus was replaced in the pelvic cavity, and the sound passed into the uterus, the length was six inches, and the fundus could be felt at the superior strait. There was only a slight cystocele; but no rectocele of any moment, for the fundus occupied the posterior cul-de-sac externally. As no tentative treatment, either by the various kinds of pessaries, would be of any permanent value—or even the elytroraphic operation — the only resource left, I believed, was the amputation of the cervix uteri, and the restoration of the perinæum.

After the patient had been in the hospital a month, November, 1864, the double-flap operation, as I have termed it, was performed in the presence of a large number of medical gentlemen and students. The first step was to return the body of the uterus into the pelvic cavity, the cervix remaining external; next, to reinvert the cervix uteri; then divide the right and left side of the cervix laterally, half to three-quarters of an inch ABOVE the union of the vaginal cul-de-sac. After this, transfix the posterior labia of the cervix, commencing at the summit of the division just made laterally, at about two-thirds of the thickness of the labia, then cutting through the whole length of the posterior half of the cervix. The anterior labia was transfixed and divided in the same manner; then removing the posterior upper portion upward and inward *in toto;* afterward the anterior lower part from above downward, leaving the one-third of the thickness of the anterior and posterior labia, having a mucous membrane externally. Thus we remove three-fourths of the cervix above the insertion of the vaginal mucous membrane after the separation of the two-thirds of the cervix uteri in its thickness, and half to three-quarters of an inch above the insertion of the vaginal mucous membrane the anterior labium is doubled up, and the end of the labium reached to the point of the cervix that was separated, and two sutures (metallic, iron or silver) are inserted on each side, and tied. The posterior is done in a like manner by two sutures

on each side. Then the labia which had been doubled up, and united by sutures, are brought in apposition, by two more sutures on each side, and also by one suture in front, to prevent the parts from gaping, and making it more secure. The lateral portions of the cervix are in close union, at the edges, and the two external mucous surfaces of the infra-vaginal portion of the cervix, the anterior and posterior, are in apposition. Union by the first intention takes place, and the artificial os tincæ is now covered by a mucous membrane for three-quarters

Fig. 8.



APPEARANCE AFTER OPERATION—HALF NATURAL SIZE.

of an inch in the cervix, and no perfect closure of the cervix can occur. The cervix was allowed, after the operation, to remain external, and water dressing solely adopted, three or four times a day, the patient removed to her bed, and pills of hyoscyamus or aqueous ext. of opium 1 gr. three times a day. The catheter to be used every four or five hours. No untoward circum-

stances occurred, the inflammation was of a light character, and the sutures were removed on the fifth day, except the one directly in front closing the labia. The operation of episio-perineoraphy was then performed after the uterus was returned into the pelvis, by the ordinary clamp suture, only adopting the parallelogram shape for the removal of the mucous membrane, when the vulva is expanded four inches in length, or two inches on each side, and one and a half inches breadth. Patient returned to bed; water dressing; T bandages; catheter used as usual, and opium or hyoscyamus pills given.

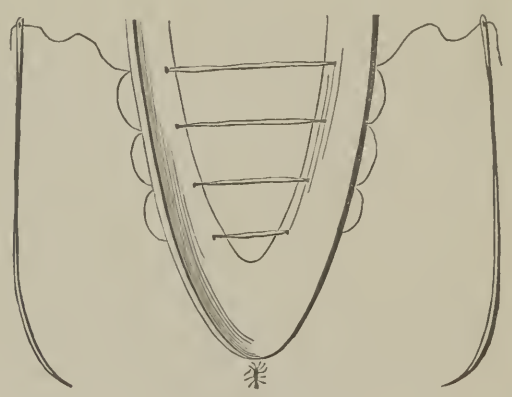
Every thing was progressing favorably; but on the fourth morning the patient removed the clamps. On examination the perinæum appeared closed perfectly, but my fears were, as the union was only recent, the adhesions would give way, and the uterus become again procident. The uterus measured four inches; the patient left the hospital the next day. In July, 1865, eight months afterward, Ann G. returned to the hospital for a second operation on the perinæum, the uterus being prolapsed in part, and measuring four and a half inches in length, and retroverted. The perinæum quite gone, and appeared as it did at the first examination. The same operation for the perinæum was resorted to, and the same circumstances occurred as previously. She removed the sutures on the fourth day. She was then dismissed from the hospital.

In February, 1866, seven months afterward, while I was on duty at the Charity Hospital, she begged to be admitted, and promised faithfully to adhere to every order or direction. As she was *au fait* in removing the suture by the former method of treatment for the perinæum, I proposed another and a different method, which I have called the *cobbler's stitch*. I felt confident she could not remove this suture.

The patient was placed in the usual dorsal position. After chloroform had been administered, and the extremities of the patient sustained by assistants, the right and left labia were denuded by scissors, after the portion of the mucous membrane was marked out of a parallelogram shape, two inches in length on each side, and one inch and three-quarters in breadth. (The uterus had not increased any more in length, but the cervix re-

mained partially external.) The largest number of silver wire, a foot in length, having a large curved needle (see diagram) attached to each end, was used. The suture was introduced at the lower part of the perinæum, close to the anus, carried deeply into the labia, on the left side, one inch from the edge of the labia, then through the right labia from within, outward, and emerged the same distance from the edge of the labia. The right labia was then pierced from one-quarter to one-third of an inch higher up on the same side, and passed through to the left labia; then the left labia was entered by the suture, in the same place the needle emerged from, and thus every quarter or one-third of an inch the suture was introduced from left to right, and from right to left, until it had reached the commencement of the part that was denuded, making from four to six times. After the parts were sufficiently dry (though it is not necessary to wait for this), the labia were then drawn together, like the cobbler's stitch, not too tightly, but sufficiently so to bring the parts in close apposition. The wire was then tied in front, and four or five small sutures applied on the edge of the labia; water dressing and T bandages moderately applied, and the usual treatment adopted after operations of this nature. This suture

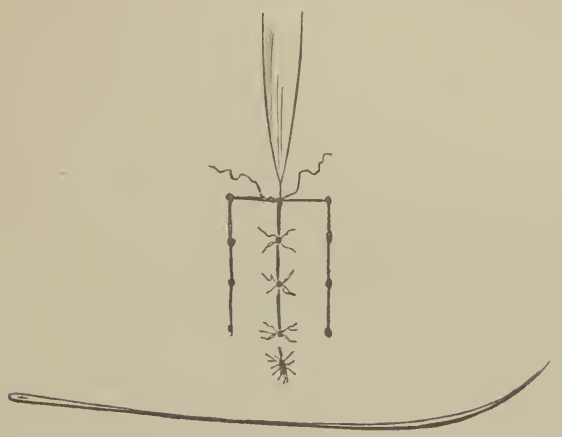
Fig. 9.



COBBLER'S STITCH.

the patient did not comprehend, nor could she possibly remove it. The sutures were removed on the tenth day.

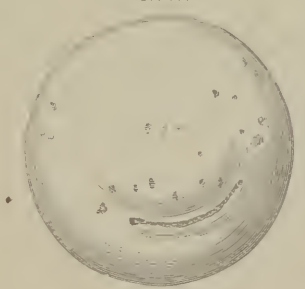
FIG. 10.



AFTER OPERATION.

No untoward circumstances transpired to remove them before. At the time of removal the parts were somewhat œdematous, and the stitches slightly embedded. The water dressings were properly attended to every day, and inflammation was thus prevented. On examination, the perinæum was solid and well established, the uterus higher up. The patient was retained in the hospital for six weeks, and the perinæum continued perfect, the uterus measuring from three to three and a quarter inches in length. The diagram gives the appearance of the cervix uteri at that time. The representation was taken by my artist, M. Köhler.

FIG. 11.



NATURAL SIZE.

Remarks.—The principal data of this case were recorded by my House-Physician, Dr. Everett. I was induced to resort

to what I have called the double-flap operation on the cervix uteri for elongation of the supra-vaginal portion of cervix uteri, with eversion of the cervix. I thought by this method we should avoid the peritonæum, posteriorly, and the bladder, anteriorly, if it should descend too low.

2. The *derivative* action might be ample enough to remove the elongation, as the cervix had been reached above the vaginal cul-de-sac. 3. That the contraction (if there was any) of the cervical canal would not be so great when the two external mucous surfaces were brought in contact. 4. That the chances of pregnancy were much greater than by the other methods. I have now operated by this method in four or five instances with success, and I see no reason why it should not be resorted to, where the proper cases present. The hæmorrhage is not as free as it is by M. Huguier's operation. Sometimes there is very little hæmorrhage, and no vessels require to be secured. I have not seen as much in operations of this form, as I have sometimes for simple division of the cervix in dysmenorrhœa or for sterility. I have made trial of the cobbler's stitch on several occasions, which answers very well, and the operation in some cases can be accomplished in from ten to fifteen minutes. The appearance of the perinæum is as perfect as it possibly can be.

Case V.—*Procidentia Uteri of ten years' duration; Elongation of the supra-vaginal portion of the Cervix; Circular Amputation; Cure.*

Sarah Jarvis, aged forty-six years, November 2, 1867, presented herself as a patient of the Bureau for Medical and Surgical Relief of the Out-door Poor, Bellevue Hospital. At eighteen years had typhus fever, since which time her menses have never been regular; has had frequent hæmorrhage, sometimes two or three times a month, which was probably owing to small vesicular polypi in the cervix. Her first child, and only one, was born when she was thirty-five years old, and after she had been married five years. She was delivered by forceps. Patient excessively dropsical at the time; she occasionally suffers from pain in the left side, for which she has been treated by various remedies.

On examination the uterus was found procident two inches; cervix not large; a small polypus in the cervical canal. By the vaginal touch the cervix was recognized as being elongated, cord-like, and extending up the vagina from one and a half to two inches. Per rectum the same condition was ascertained. The sound passed five inches and a half to the fundus uteri. The body was retroflexed. No cystocele, but an hypertrophic condition of the anterior part of the vagina, near the urethra. No rectocele. Perinæum perfect and firm. Operation, December 8, 1866. Dr. Taylor, in the presence of Dr. W. T. Lusk, and Dr. S. T. Hubbard, at the residence of the patient, amputated one inch and a half of the cervix, by means of the curved scissors. The neck first being slit laterally above the vaginal cul-de-sac half an inch, the mucous membrane divided around the cervix. The wire-chain écraseur was first tried, but the wire broke, in exercising, from pressure.

There was very free hæmorrhage from an arterial vessel on the left side of the cervix, for which, first torsion, and then the actual cautery was used; and afterward the persulphate of iron. The uterus was replaced in the vagina after the hæmorrhage had ceased. The vagina was then tamponed, as I usually do in all cases for uterine hæmorrhage, by the surgical bandage, one and a half to two inches wide, and packing the vagina completely. It is perfectly simple, promptly introduced, and as promptly removed. The next morning the tampon was removed. No hæmorrhage. Patient to retain the bed for two or three weeks. Catheter used as usual. Sedative treatment, and the tepid-water injection for vagina every day. In two weeks the measurement of the uterus gave from two and three-fourths to three inches. The uterus had attained its normal axis and position in the pelvis. November 14, 1867, nearly one year afterward, Dr. Lusk reports, "Patient called to-day at the Bureau, and says she has been quite well ever since." Uterus natural size, two and a half inches; os uteri not contracted too much; os tincæ slightly abraded. This case is reported by Dr. W. T. Lusk, my attending physician, to the Bureau.

Remarks.—In this case the circular amputation was

adopted. There was more hæmorrhage than ordinary. I do not think it is necessary to adopt the removal of a conical portion of the cervix, as laid down by M. Huguier. The form or method I have adopted is in conformity to the nature of the case. The important and principal object to be obtained from the operation is the *derivative* effect by the removal of a portion of the cervix, and thus a modification in the size and weight, a decrease in its elongation, with or without hypertrophy, by the loss of blood, and next by the suppurative process which follows—sometimes more or less—and the parts to heal up by granulation, occupying about four to five weeks.

The decrease of the affected portion is well illustrated, as is so often noticed in the removal of a large pedicle in the case of *fibro-cellular* or fibrous polypi, although the whole of the base of a pedicle, when large, may occupy some months for its removal. The vitality and the weight of the part are interrupted, in these cases of procidentia uteri, by the removal of a portion of the cervix, and a new process instituted for its return to the natural size. It is not to be asserted that the operation will *always* succeed; nor has the operation for the removal of a large pediculated polypi, or a large tonsil. There is a tendency to return in some cases of this nature.

Case VI.—*Procidentia Uteri, twelve Years' duration; Elongation of the supra-vaginal portion; Body of the Uterus retroflexed internally, Cervix externally; Amputation of the Cervix, by the removal of a conical portion of the Neck; Episio-perineoraphy; Cure.* Reported by Dr. Everett.

Hannah M., married, aged forty, Ireland, was admitted into Bellevue Hospital November 2, 1864. Has had six children. Had two miscarriages since the birth of the last child. Uterus prolapsed twelve years. She first noticed the tumor after the birth of her first child, which happened before a physician could attend her. It occasioned her very little trouble until about two years ago, since which time it has been getting worse, and pains her considerably at times. Her menses have been regular, except for the last two or three months.

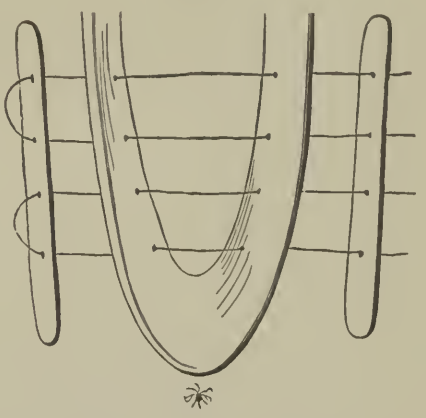
By inspection the uterus appears prolapsed about two and a half inches, and the perinæum entirely gone. The sound gives the length of the uterus as five and a half inches. By the vaginal and rectal examination, the long cord-like feel of the cervix is perceptive, and the sound can be felt through the body of the uterus, which lies in the cavity of the sacrum. There was only partial cystocele and no rectocele.

November 15th.—The amputation of the cervix was performed in the following manner: The cervix was divided laterally one-half to three-quarters of an inch above the vaginal cul-de-sac on each side. The anterior and posterior portions of the cervix were then removed; the anterior, by dividing it downward obliquely and inward to the cervical canal, and the posterior upward obliquely and inward, thus a small conical portion of the cervix was removed. Hæmorrhage was moderate. After the hæmorrhage had ceased, a pledget of cotton was applied, and the surgical bandage, as formerly used in other cases, introduced as a tampon. The next day the tampon was removed, and the vagina washed out with tepid water. Vaginal injections of tepid water every day. Pills of opii, 1 gr., three times a day. On the sixth day episioperineoraphy was performed, and the clamp suture adopted with the modification of closing the clamps, by Dr. Lane's method. Water dressing; catheterism every day, and sedative treatment. Sutures removed on the fourth morning, and the patient retained in bed for ten days more, when she was allowed to get up. Uterus did not prolapse, and measured only three and a half inches. The body lying in the sacrum when reclining, but assumed the natural position when erect. She remained in the hospital until December 25th, when she was discharged cured. The perinæum firm and solid.

Remarks.—In this case I adopted the modification of uniting the clamps after Dr. James R. Lane's method for ruptured perinæum or vaginal rectocele. Dr. Lane used the ivory bar instead of the lead one. The bar intended for the right side is ready, threaded with two pieces of metallic wire (iron or silver), as represented (see Fig. 12), each piece of wire being looped through the two adjacent holes. This is held by an assistant. The needle, after it has been passed across or through

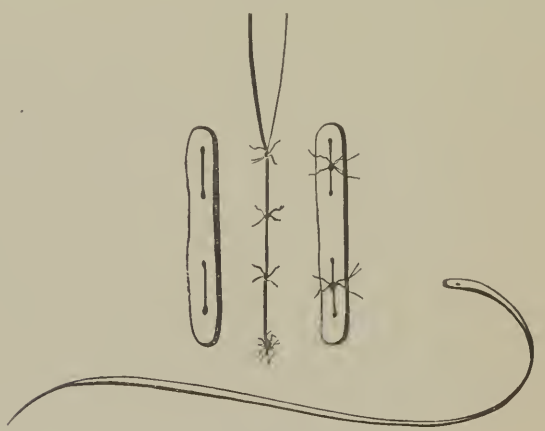
both labia, commencing at the lowest part, is then threaded with the lower one of the four ends of wire, and withdrawn — the same proceeding is adopted for the other ends. The wires

Fig. 12.



are then passed through the second bar, and, being drawn tight, the whole is firmly secured by tying or twisting the ends together, first of the two lower, and then the two upper.

Fig. 13.



AFTER OPERATION.

The method of applying the sutures is simple and easy, and as easily and simply removed, by only dividing the two sutures.

It is necessary in many cases of this character of prociden-

tia uteri to have firm support, during the early progress of the treatment, by the clamp suture, as the interrupted suture alone will not meet the nature of the case. I have preferred, in all the operations on the perinæum, the needle as exhibited in Fig. 13, instead of Mr. Lane's, and I sometimes introduce the four needles before threading them, and then drawing them through at once. I perceive that Dr. Hayes Agnew, of Philadelphia, uses a modification of Mr. Lane's needle, by substituting a movable joint.

Case VII.—*Procidentia Uteri, four Years' Standing; Elongation of the supra-vaginal Portion of the Cervix Uteri; Elytroraphy twice, afterward circular Amputation of the Cervix; Episio-perineoraphy.* Reported by Dr. Everett, House-Physician.

Mary B., aged 26, domestic, native of the United States, has had 6 children; 14 years of age when she was first confined. At that time she had twins. Four years ago last March, 1864, while carrying a tub of water, she was suddenly seized with a severe pain in the lower part of the abdomen, and soon after the uterus prolapsed through the vulva. She commenced flooding, and lost a large quantity of blood, when she came into Bellevue Hospital. In the following autumn, Dr. Emmet, at the suggestion of Dr. Elliot, performed Dr. Sims's operation on the anterior part of the vagina—anterior elytroraphy. Five weeks afterward she was discharged as well and continued so till April, 1865, when she returned to the hospital the same as formerly, when Dr. Elliot performed the same kind of operation; but, after a few weeks, the uterus prolapsed again.

In November, 1866, Dr. Taylor amputated the crevix uteri (simple circular operation). The uterus measured $4\frac{3}{4}$ inches. After removing $1\frac{1}{4}$ inch from the cervix, the uterus was returned into the pelvis, as soon as the hæmorrhage had ceased. T-bandage applied; catheterism 2 or 3 times a day; vaginal injections of tepid water; opium pills, 1 gr., 3 times a day; and rest for 2 or 3 weeks. After four weeks, she requested to be discharged, as she considered herself well. The uterus attained its normal position and axis in the pelvis. No

operation for the perinæum was then adopted. Seven months afterward, she was seen in the hospital visiting a friend. At that time, the uterus retained its normal position, and she continued regular every month, and was in better health than for several years.

While on duty at the Charity Hospital, Blackwell's Island, in February, 1868, Mary B. entered the hospital a day or two before, and complained of her former difficulty respecting the womb. On inspection, the uterus was prolapsed 1½ inches, slightly sensitive to the touch, and measured 4 inches. In the operation for amputation, 14 months ago, I did not perform the perineal operation, as I supposed the perinæum, in her case, might be sufficient (although a short one) to retain the uterus if the cervix was removed. I was, however, mistaken. This patient was very hysterical.

February 25, 1868.—I performed the operation of closing the perinæum before the class, adopting the clamp-suture (Lane's method) of tying the wire. Sutures removed, March 1st, by my house-physician, Dr. Ralph Mead. Perinæum closed firmly.

March 6th.—Every thing progressing finely.

March 9th.—Perinæum long, firm, and solid; cervix of uterus, high up, 2½ inches; measurement, 3 inches. Says she feels very well.

April 14th.—Saw Mary B. The uterus measured 2¾ inches, and the cervix was 2½ inches from the vulva. In the erect position, the uterus was in its normal position. The perinæum continued firm and solid. The class was present at the time of examination, and some of the students and the house-staff were permitted to verify the natural relation of the uterus to the pelvis, and the size of the uterus.

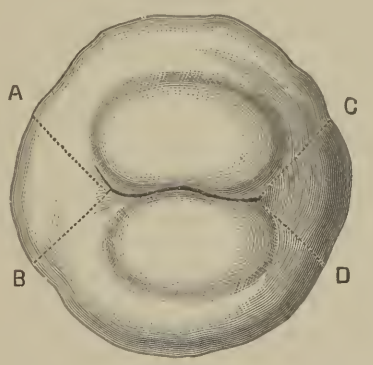
Remarks.—The partial failure of this case, which was from 1 year to 14 months after the operation, was owing, as I believe, to the want of my not forming a new perinæum, longer than the natural one. It tends to illustrate the opinion I entertain, that, when the cervix is amputated even by any of the methods I have referred to, the operation may not be completely successful, unless the perinæum is repaired, if lacerated, or if relaxed, and wide, and gaping, and worn away. It be-

comes, I may say, almost a positive necessity, if the uterus has been completely or incompletely prolapsed. I did not consider the case of Mary B. as a perfect case of elongation of the supra-vaginal portion of the cervix, though the examination in February, 1868, gave us the cylindrical cervix, although not long. It is adduced to show that, in some cases, the amputation of the cervix will not succeed perfectly as an operation alone, without the remodelling of the perinæum, which is a great and important part of the treatment. It shows also that the operation on the anterior part of the vagina, as proposed by Hall and completed by Heming and others, is subject to the same failure.

Case VIII.—*Procidentia Uteri; complete Eversion of the Cervix Uteri of twenty Years' Continuance; Removal of triangular Portions of the Cervix Uteri; Cure.*

Bridget Mathews, admitted into Bellevue Hospital, November, 1866; has had several children; complains of severe dragging sensation in the groins, and has had her menses very freely of late. On examination, the uterus was found prolapsed nearly two inches; the cervix was completely everted,

Fig. 14.



NATURAL SIZE.

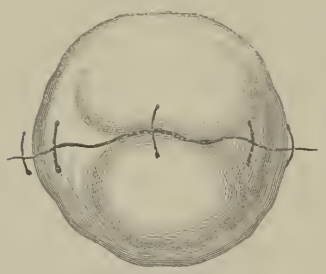
A B. Triangular portion to be removed.
C D. External os uteri.

presenting a red bluish appearance (see colored plate), with a slight discharge of mucous secretion; there was an abrasion

near the os uteri. There was a cystocele and vaginal rectocele, both of a moderate extent. The uterus measured $2\frac{3}{4}$ inches in depth, and the rectal touch could feel the fundus of the uterus just within the labia, also the end of the sound through the body.

The operation performed was, removing a triangular portion from the cervix on each side, of an inch long (see Fig. 14), and then closing the cervix by two metallic sutures introduced on each side, and one in front (see Fig. 15). On the third morning the sutures were removed, the uterus returned into the pelvis, and the operation of episio-perineoraphy performed. The clamp-suture was adopted. On the sixth day the sutures were removed, and the perinæum found perfect. Ten days afterward, the uterus was normal in position, and presented a natural appearance (see Fig. 16). The same treatment adopted as in the former case—water-dressings, and

FIG. 15.



AFTER OPERATION.

FIG. 16.

NATURAL SIZE TWO MONTHS AFTERWARD.

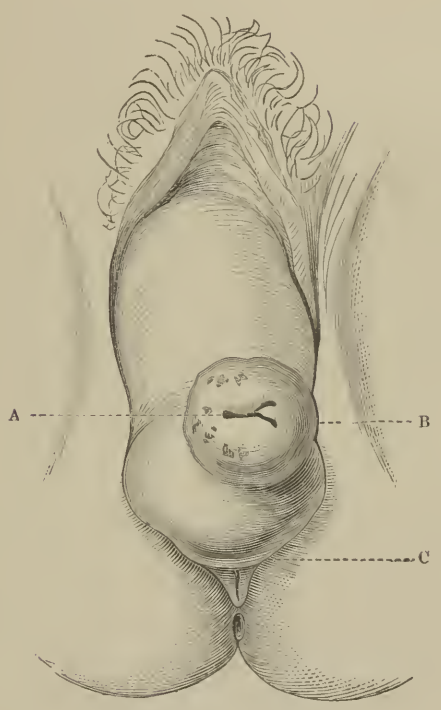
injections, catheterism, and sedative treatment to restrain the action of the bowels. Previous to the bowels being moved by a cathartic, I have always preferred an enema should be given, before the deep sutures are removed.

CASE IX.—*Complete Procidentia Uteri; complete Retroflexion externally; complete Eversion Uteri; Procidentia of twenty-five Years' Duration; lacerated Perinæum; no Treatment.*

Patient admitted into Charity Hospital, May, 1865; aged 73 years. The uterus measured $1\frac{1}{2}$ inches; from the internal

orifice, 1½ inches; when reëverted, 2 inches; slight cystocele and rectocele (see diagram).

FIG. 17.



TWO-THIRDS NATURAL SIZE.

A. Os internum. B. Os externum. C. Fundus uteri. Procidentia 25 years.

Remarks.—This case is presented to show the eversion that is manifested in cases where the uterus presents its normal length, yet retroflexed externally.

CONCLUSIONS.

1. That the opinion of M. Huguier—that the affection designated under the names of prolapsus or procidentia of the uterus, and which appears to be completely out of the pelvis, and is exterior to the vulva, is rare—is correct, though not as frequent as M. Huguier supposed, being in the proportion, according to my own investigations, as 1 to 12⅝, instead of 1 to 32 of M. Huguier.

2. That there exists very seldom a true hypertrophic elongation or pathological change of structure of the supra-vaginal portion of the cervix; but that there is an elongation which, in a great many cases, varies from 1 to 4, 5, and 6 inches, though usually $4\frac{1}{2}$ to 5.

3. That the elongation is principally in the *isthmus* or intermediate part of the supra-vaginal portion of the cervix, and that this elongation is aided and sustained by the gravity of the cervix consequent, in a great measure, on the changes which have occurred during gestation or parturition.

4. That the assertion of M. Huguier—that the fundus of the uterus remains in the pelvic cavity as high as the superior strait or superior part of the symphisis pubis generally—is not verified; but that the fundus or body of the uterus is usually found retroverted or retroflexed, with the cervix in part external, or, as it is not infrequent, the uterus is procident, and retroflexed *in toto* externally.

5. That the infra-vaginal portion of the cervix is sometimes hypertrophied; but that it is in many instances a true and *complete eversion* of this part, measuring from $2\frac{1}{2}$ to $3\frac{1}{2}$ inches.

6. That it is not necessary to remove as large a conical part of the cervix as described by M. Huguier; but the simple circular method will, in some cases, suffice, though, in other cases, the adoption of the other methods, as proposed, may be resorted to, according to the nature of the case.

7. That the only operation which fulfils the principal and correct indications in *this affection*, for the radical cure of this affection, is the amputation of the cervix uteri.

8. That the contraindications of M. Huguier, which have been referred to, do not forbid the operation, but require it.

9. That, to obtain a more perfect success in the treatment, the operation of episio-perineoraphy should be performed.

I have given a transcript of my own experience, and a record of a few cases I have treated in procidentia uteri with elongation, whether accompanied or not with hypertrophy. I have only added this mite on the altar of our profession, in comparison with the large gifts of others.

If I supposed that the correctness and accuracy of the views and opinions I have advanced were beyond all question; or, on the contrary, that their entire falsity would be asserted, I would not have ventured on the preparation and publication of this article. I believe the profession are at issue as to the facts and as to the interpretation of them in these cases. I trust the experience and investigations, as recorded, may not be viewed as entirely useless and profitless, but that both the facts and interpretations may be subjected to the test of scrutiny and inquiry. It is proper and just to ascertain as far as possible where an error has been committed in the observations, and, on the other hand, where wrong impressions have been adduced from right observations. I shall presume on the favorable consideration of those whose opinions I may have differed from. I hope that those who occupy their time and attention in laboring for the welfare and comfort of suffering women, who are compelled to undergo, perhaps for years, the inconvenience and distress consequent upon a *uterine hernia*, will contribute their own experience, in order to aid and benefit them.

ADDENDUM.

Since this paper was prepared for publication, eighteen months ago, eight more cases have been operated upon, making, in all, eighty-four cases, with thirty-four favorable results. Some of these last cases have been retained in the Bellevue and the Charity Hospital for several months, and have been seen by those interested in the results. The uterus retains a normal position, the os tincæ being two and a half inches from the vulva.

ON AMPUTATION

OF

THE CERVIX UTERI

IN CERTAIN FORMS OF

PROCIDENTIA,

AND ON

COMPLETE EVERSION OF THE CERVIX UTERI.

BY

ISAAC E. TAYLOR, M. D.,

PRESIDENT AND EMERITUS PROFESSOR OF OBSTETRICS, AND DISEASES OF WOMEN AND CHILDREN, IN THE BELLEVUE HOSPITAL MEDICAL COLLEGE; ATTENDING PHYSICIAN TO BELLEVUE HOSPITAL, THE CHARITY HOSPITAL, THE INFANTS' HOSPITAL; CONSULTING PHYSICIAN TO THE STATE WOMAN'S HOSPITAL; VICE-PRESIDENT NEW YORK ACADEMY OF MEDICINE, ETC., ETC.

NEW YORK:
D. APPLETON & COMPANY,
90, 92 & 94 GRAND STREET.
1869.